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SELECTED OCCUPATIONAL HISTORY

Chiropractic Physician and Clinic Director, Asheville Spine and Injury Center, Asheville, North Carolina, 1992 -Present

EDUCATION AND LICENSURE

Spinal Biomechanics and Trauma (Fellowship Candidate), State University of New York at Buffalo, Jacobs School of Medicine, Office of Continuing Education, and Cleveland University-Kansas City, College of Chiropractic, 2021-present

Doctor of Chiropractic, licensed in the State of North Carolina, License # 1880

Doctor of Chiropractic, licensed in the State of South Carolina, License # 1569

Doctor of Chiropractic, licensed in the State of West Virginia, License # 569

Doctor of Chiropractic, Life University, Marietta, Georgia, 1991

Internship, Life Clinics, Marietta, Georgia, 1989 - 1990

Internship, Dorothea Dix Hospital, Raleigh, North Carolina, 1985 - 1986

Internship, John Umstead Hospital, Butner, North Carolina, 1985

National Board of Chiropractic Examiners, Part I, 1990

National Board of Chiropractic Examiners, Part II, 1990

National Board of Chiropractic Examiners, Part III, 1990

B.A. in Averett University, Danville, Virginia, 1983

Master of Divinity in Southeastern Baptist Theological Seminary, Wake Forest, NC, 1986

Certification in Physiological Therapeutics in National Chiropractic College, Lombard, Illinois, 1990

Undergraduate Studies in Science, Brenau College, Gainesville, Georgia, 1987

SELECTED POST-GRADUATE EDUCATION, AND CERTIFICATIONS

Fellowship Candidate, Spinal Biomechanics and Trauma - State University of New York at Buffalo, Jacobs School of Medicine, Office of Continuing Education, and Cleveland University-Kansas City, College of Chiropractic, 2021-present

Pathophysiology of Craniocervical Arterial Dissection - *detailed review of the anatomical structure and layers of the arterial wall was presented including the tunica externa, intima, and adventitia. Discussion of intimal tearing and thrombus formation was provided focused on hypoxic clinical patient presentations. Diagnostic angiography as the gold standard was presented. Clinical presentation of craniocervical arterial dissection was reviewed with past medical history such as genitive connective tissue disorders such as fibromuscular dysplasia, Ehlers-Danlos, Marfan, and Loeys-Dietz syndromes. Delineation between musculoskeletal and vascular manifestations of head/neck pain was presented and outlined with particular attention being given to hypoxic clinical presentations. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards – PACE, State University of New York at Buffalo Jacobs School of Medicine, and Biomedical Sciences – 2023*

Clinical Grand Rounds – Chiropractic Management of Head and Neck Trauma – review of types of tissue injured in head and neck trauma including muscle, nerve, intervertebral disc, ligament, spinal cord, vertebral body, artery, or vein was presented. Clinical correlation of mechanism of injury, patient history, subjective complaint, physical examination, advanced imaging findings and electrodiagnostic testing was emphasized. Interprofessional communication

and review of any diagnostic dilemmas was reviewed. Spinal compressive radiculopathy versus acute nerve injury without prolonged compression was presented. Differential diagnosis between ligament, intervertebral disc and nerve pathology was outlined in depth and presented. Emphasis was presented on spinal nerve manifestations of ligament injury in the cervical spine. Spine Management Group, LLC, Federation of Chiropractic Licensing Boards – PACE, State University of New York at Buffalo Jacobs School of Medicine, and Biomedical Sciences – 2022.

Clinical Grand Rounds – Understanding Surgical Approaches and Techniques

– overview of Lumbar Interbody Fusion (LIF) as an established treatment for a range of spinal disorders such as degenerative pathologies, trauma, infection, and neoplasm was presented. Mechanical techniques and implant processes were discussed. Range of LIF approaches was outlined including posterior lumbar interbody fusion (PLIF), transforaminal lumbar interbody fusion (TLIF or MI-TLIF), oblique lumbar interbody fusion/anterior to psoas (OLIF/ATP), anterior lumbar interbody fusion (ALIF), lateral lumbar interbody fusion (LLIF). Review of Minimally Invasive Surgery (MIS) was discussed and detailed. Spine Management Group, LLC, Federation of Chiropractic Licensing Boards – PACE, State University of New York at Buffalo Jacobs School of Medicine, and Biomedical Sciences – 2022.

Clinical Grand Rounds – Trial Testimony and the Spine Management Patient – discussion and presentation of the trial process and requirements of both the treating physician and expert physician was outlined. Emphasis was placed on detailed preparation of case flow and objective demonstrable findings. Review of courtroom proceedings including witness and expert testimony was included. Expert versus treating physician requirements were presented. Emphasis was placed on thorough evaluation and narrative reporting processes to prepare for court room questioning. Specific review of illustration of demonstrative evidence was outlined. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards – PACE, State University of New York at Buffalo Jacobs School of Medicine, and Biomedical Sciences – 2022.

Clinical Grand Rounds – Acute vs Chronic Radial Fissures – Diagnosis and Management – outline of morphological presentations of concentric, radial and transverse fissures within the annulus fibrosus of the intervertebral disc. Consensus driven definitions were presented as outlined by recommendations of the combined task forces of the North American Spine Society, American Society of Spine Radiology, and American Society of Neuroradiology. Modified Dallas Classification of annular fissures was reviewed and outlined. Specific correlation to annular

fissure type and intervertebral disc morphology was detailed. Specific correlative factors linking annular fissures with acute and chronic injury was presented and reviewed. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards – PACE, State University of New York at Buffalo Jacobs School of Medicine, and Biomedical Sciences – 2022.

Clinical Grand Rounds – x-ray dosage, sagittal balance and surgery success rates –

discussion related to millisievert and cumulative effective dose was presented. Outline of the definition and research process of achieving Minimal Clinical Important Difference in spine surgery was discussed. CED levels below 100mSv was reviewed and compared to patients receiving multiple plain film radiographs. Discussion and relation of spinal biomechanics, sagittal balance, utilization of spine radiographs and MRI to working with the neurosurgeon was outlined. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards – PACE, State University of New York at Buffalo Jacobs School of Medicine, and Biomedical Sciences – 2022.

Grand Rounds – Indications and Absolute/Relative Contraindications to Chiropractic Care

– review of inclusion criteria accompanying modification of chiropractic treatment plan due to an absolute or relative contraindication to chiropractic care. Examples of clinical rationale, physical examination findings and proper diagnoses were provided. Review of the definitions of both relative and absolute contraindications to chiropractic care, specific details on referral to medical specialty were provided. Analysis of regional contraindications and treatment in adjacent regions were provided and discussed. The keys to understanding indications to care were detailed including the patient interview, review of medical records, diagnosis, and spinal examination findings. Review of most common reasons for chiropractic license violations were presented including application of the chiropractic adjustment to a contraindicated condition, failing to refer in the presence of a contraindication, failure to properly evaluate the patient to determine if a contraindication is present and failing to properly document the patient encounter. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards – PACE, State University of New York at Buffalo Jacobs School of Medicine, and Biomedical Sciences – 2022.

Grand Rounds – Chiropractic Management and Patient Triage – review and discussion on the beginning of patient triage at phone intake was presented and related to the physical examination, review of diagnostic imaging and diagnosis. Detailed discussion of proper triage protocols including physical examination findings, plain film radiographs, MRI, diagnosis, and

response to care was presented. Evidence based utilization of advanced imaging protocols was detailed including presence of neurological deficit non-response to care, increase in radicular symptoms and spinal instability on plain film imaging. Overview of interprofessional communication during triage including last E/M report, imaging reports, specialist referral and demographic sheet was presented. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards – PACE, State University of New York at Buffalo Jacobs School of Medicine, and Biomedical Sciences – 2022

Grand Rounds – Chiropractic Management – CT Lumbar Spine Anatomy – detailed review of anatomical structures in the axial, sagittal and coronal planes of CT of the lumbar spine. Musculature presented included gluteus medius, psoas major, multifidus, iliacus, lumbar paraspinals and quadratus lumborum in both the T1 and T2 axial sequences. Emphasis was placed on the structure and morphology of the hard tissues of the spine with particular focus on the facet joints and pars interarticularis. Location and anatomical structure of the sacroiliac joint was presented and discussed. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards – PACE, State University of New York at Buffalo Jacobs School of Medicine, and Biomedical Sciences – 2022.

Clinical Grand Rounds – Chiropractic Spine Management and Pain Categorization – review of published categorization of pain generation by the International Association for the Study of Pain including nociceptive, neuropathic and nociplastic sources. Discussion on the history and relevance of the Delphi process of conducting consensus-based research was presented. Origins of nociceptive, neuropathy and nociplastic sources of pain was outlined including non-neural tissue, the somatosensory nervous system as well as the categorization of pain syndromes with non-specific findings on physical examination and imaging studies. Review of the importance of quantitative testing, clinical examination and clinical correlation was presented and related to the academic approach to the categorization of pain. Spine Management Group, LLC, Federation of Chiropractic Licensing Boards – PACE, State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences

Clinical Grand Rounds - Chiropractic Management – MRI Cervical Spine – Axial Anatomy – detailed review of anatomical structures on the axial slices of cervical spine MRI were presented. Musculature presented included sternocleidomastoid, splenius cervicis, splenius capitis, logus capitis, longus colli and semispinalis capitis in both the T1 and T2 axial sequences. Traversing

vs exiting spinal nerves were contrasted and compared to cervical spine. Neurological structures such as the spinal cord, ventral and dorsal nerve roots were identified. Visualization and discussion of benefit of T2 axial sequences in the identification of facet joint pathology was presented. Emphasis was placed on the structure and morphology of the intervertebral disc and spinal ligaments including anterior longitudinal ligament, posterior longitudinal ligament, facet capsule, interspinous, supraspinous, intertransverse and alar ligaments were detailed. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards – PACE, State University of New York at Buffalo Jacobs School of Medicine, and Biomedical Sciences – 2022.

Documenting Clinical Findings and Diagnosis, Correlating clinical findings with x-ray and advanced imaging to conclude and accurate diagnosis, prognosis and treatment plan. The utilization of demonstrative documentation in diagnostic testing to visualize pathology in the trauma and non-trauma case. Academy of Chiropractic post-Doctoral Division, Long Island, NY, 2022

Documenting Trauma, The documentation of biomechanical and anatomical pathology with trauma patients. Clinically correlating diagnosis, demonstrative bodily injury-pathology and persistent functional losses. Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2023

Reimbursement Guidelines and Documentation, Advanced documentation based on clinical and testing findings that correlate to Evaluation and Management Guidelines. Evidence-Based necessity parameters for considering spinal imaging and electrodiagnostic testing. Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2023

Grand Rounds – Chiropractic Management – Multiple Spine Injuries – analysis of patients presenting with multiple spinal injuries post trauma was presented. Overview of ligamentous, intervertebral disc and cartilage injuries was reviewed. Discussion of clinical symptoms and correlation to objectified injury was discussed. Interprofessional collaboration with emphasis on clinical indications for the chiropractic adjustment, need for medical specialist referral, necessity of advanced imaging modalities such as MRI/CT and course of care was outlined and reviewed. Hallmark signs of ligamentous injury such as mid-line tenderness was detailed. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards – PACE, State University of New York at Buffalo Jacobs School of Medicine, and Biomedical Sciences – 2023

Grand Rounds – Chiropractic Management – Spinal Ligament Injury – review and detailed presentation of the frequency of traumatic ligament injuries in the cervical spine was outlined. Imaging modalities such as dynamic plain film radiographs and MRI were discussed with emphasis on stability and presence of acute injuries. Threshold for medical specialty referral was presented within the context of conservative vs surgical management. Outline of patient presentation, physical examination findings including orthopedic and neurological findings was presented. Application of AMA Guidelines to the rating of injury severity using both the 5th and 6th edition of the Guides to the Evaluation of Permanent Impairment was reviewed. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards – PACE, State University of New York at Buffalo Jacobs School of Medicine, and Biomedical Sciences – 2023

Clinical Grand Rounds – Acute vs Chronic Radial Fissures – Diagnosis and Management – outline of morphological presentations of concentric, radial and transverse fissures within the annulus fibrosus of the intervertebral disc. Consensus driven definitions were presented as outlined by recommendations of the combined task forces of the North American Spine Society, American Society of Spine Radiology, and American Society of Neuroradiology. Modified Dallas Classification of annular fissures was reviewed and outlined. Specific correlation to annular fissure type and intervertebral disc morphology was detailed. Specific correlative factors linking annular fissures with acute and chronic injury was presented and reviewed. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards – PACE, State University of New York at Buffalo Jacobs School of Medicine, and Biomedical Sciences – 2022.

Clinical Grand Rounds – Trial Testimony and the Spine Management Patient – discussion and presentation of the trial process and requirements of both the treating physician and expert physician was outlined. Emphasis was placed on detailed preparation of case flow and objective demonstrable findings. Review of courtroom proceedings including witness and expert testimony was included. Expert versus treating physician requirements were presented. Emphasis was placed on thorough evaluation and narrative reporting processes to prepare for court room questioning. Specific review of illustration of demonstrative evidence was outlined. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards – PACE, State University of New York at Buffalo Jacobs School of Medicine, and Biomedical Sciences – 2022.

Chiropractic Diagnosis and Management of Vertebral Compression Fracture – review of

the influence of osteoporosis on development of vertebral compression fracture was reviewed and detailed in comparison to neoplasm. Utilization of MRI as the gold standard for evaluating the age of and pathophysiology was discussed and presented. Absorptiometry was outlined and presented in relation to monitoring bone density. Interprofessional communication of absolute versus relative contraindications to conservative care and spinal manipulation was outlined and reviewed. Review of the three columns of vertebral architecture was detailed. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards - PACE. State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences – 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. Review of structural and physiological properties relating to stress/strain curve of the above ligaments. Outline of the toe region, linear region and failure region was demonstrated. Transversely isotropic material properties of spinal ligaments was included and correlated to chiropractic care and impairment rating using the AMA Guides to the Evaluation and Management 5th and 6th editions. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards - PACE. State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences – 2021.

Chiropractic 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. Review of spinal cord anatomy included white and gray matter, ventral and dorsal nerve roots, spinal nerve including the dura mater, arachnoid mater, and pia mater. Specific 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 in relation to cervical myelopathy, spinal cord compression and myelomalacia. Patient centered; consensus driven clinical diagnosis including interprofessional communication was presented, specific presentation relating to diagnostic outcomes and management. Attention was given to MRI and CT myelogram in both the uncomplicated and complicated patient. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards - PACE. State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences – 2021.

Chiropractic Diagnosis and Management of Lumbar Ligament Laxity – detailed outline of injury thresholds of the anterior longitudinal, posterior longitudinal and ligamentum flavum was presented in the lumbar spine. Review of structural and physiological properties relating to stress/strain curve of the above ligaments. Outline of the toe region, linear region and failure region was demonstrated. Transversely isotropic material properties of spinal ligaments was included and correlated to chiropractic care and impairment rating using the AMA Guides to the Evaluation and Management 5th and 6th editions. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards - PACE. State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences – 2021.

Chiropractic Diagnosis and Management of the Post-Surgical Patient - outline and analysis of spinal biomechanical parameters in a whole spine model of care in the post-surgical analysis of the spine pain patient. Review of the details of measuring Pelvic Incidence and discussion of history of its analysis in relation to sagittal balance and vertebral body rotation was discussed. Outline of movement from a regional model of spine care to a full spine model was presented particularly in the context of pain management strategies post-surgery. Analysis of the components of the post-surgical patient including muscle movement patterns, segmental mobility, spinal curvature and rotation in the coronal, sagittal and axial planes was presented. Interprofessional communication and co-management was emphasized. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards - PACE. State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences – 2021.

Chiropractic Diagnosis and Management of the Pre-Surgical Patient – outline and analysis of spinal biomechanical parameters in a whole spine model of care. Review of the details of measuring Pelvic Incidence and discussion of history of its analysis. Outline of movement from a regional model of spine care to a full spine model was presented. Analysis of the components of the pre-surgical patient including muscle movement patterns, segmental mobility, spinal curvature and rotation in the coronal, sagittal and axial planes was presented. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards - PACE. State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences – 2021.

Biomechanical Analysis in Patient Crash Injuries – Detailed review of the difference between biomechanical and biomedical analysis of injuries was presented. Outline of necessity of the use of properly credentialed biomechanical and crash investigation professionals in the diagnosis,

management, and reporting of crash injuries. Review of specific research related to forces during Activities of Daily Living and those sustained in a crash were presented. Details of a proper biomechanical analysis were discussed and specific review of a biomedical report omitting the mathematical calculations needed to determine force and injury potential was presented. Additional review of methods needed to determine expertise of the bio mechanist or accident investigation was discussed. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards, State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences – 2021.

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 or PACE Recognized by The Federation of Chiropractic Licensing Boards], ACCME Joint Provider ship 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 or PACE Recognized by The Federation of Chiropractic Licensing Boards], ACCME Joint Provider ship 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

Aberrant Spinal Motion and Degenerative Disc Disease – research analysis of mechanic factors as etiology of intervertebral disc degeneration. Review of spinal tissue mechanics and their relation to mechanical stress was discussed and correlated to abnormal changes in the structure and composition of the intervertebral disc. Detailed discussion of ingrowth of pain transmitting nerve fibers into degenerative intervertebral discs and their relationship to acute and chronic pain was presented. Clinical correlation between congenital malformations of the spine, including scoliosis, kyphosis, spina bifida, spondylolysis and Klippel Feil syndrome), accidental back injury or ligament injury, occupational exposure and causing aberrant mechanical loading of lumbar spine, and intervertebral disc degeneration visible on T1, T2 and STIR MRI, sagittal and axial sequences was presented. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards, 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 or PACE Recognized by The Federation of Chiropractic Licensing Boards], ACCME Joint Provider ship 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 or PACE Recognized by The Federation of Chiropractic Licensing Boards], ACCME Joint Provider ship 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 or PACE Recognized by The Federation of Chiropractic Licensing Boards], ACCME Joint Provider ship 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

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 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, Cleveland University Kansas City, Chiropractic and Health Sciences, Federation of Chiropractic Licensing Boards, Lehi, UT 2021

Clinical Grand Rounds – Chiropractic Management of Chronic Spine Pain – Discussion of chronic spine pain as a Public Health issue and Chiropractic's role in its diagnosis and management. Epidemiological statistics of chronic pain sufferers consulting Doctors of

Chiropractic in the United States was presented. Outline of a spinal function and preventative model as opposed to a curative process was presented and reviewed. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards, State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences – 2021

Clinical Grand Rounds – Chiropractic Management of Lumbar Disc Herniation – review of the pathogenesis and morphological presentation of lumbar intervertebral disc herniation. Outline of patient history, physical examination including neurological and orthopedic evaluation as well as criteria for ordering and reading advanced imaging such as MRI and CT were presented. Plain film static and dynamic radiographic studies were reviewed. Patient centered; consensus driven clinical diagnosis including interprofessional communication was presented. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards, State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences – 2021.

Clinical Grand Rounds – Importance of Interprofessional Healthcare Communication and Teamwork – Discussion of the history of interprofessional healthcare and the acknowledgement by the World Health Organization was presented. Specific detail on chiropractic academia and student perception of its importance was outlined. The growth and importance of both interprofessional education and communication was stressed and reviewed. Need for a clear professional identity to facilitate interprofessional education and communication was presented. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards, State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences – 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 including

interprofessional communication was presented, specific presentation relating to diagnostic medial branch blocks and pain management referral was emphasized. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards - PACE. State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences – 2021.

Clinical Grand Rounds – 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. Discussion of rationale for knee replacement revision surgery including aseptic loosening, fracture and prosthetic joint infection was reviewed. Specific statistical review on revision surgery and effective treatment of end-stage knee osteoarthritis was presented. Details of evidence-based research outlining patients with cervical degenerative disorders having a higher rate of total knee replacement revisions than those without degenerative changes. Analysis of the benefit of radiographic studies looking at the mechanical relationship between the cervical spine and knee composition was outlined and reviewed. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards, State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences – 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, Cleveland University Kansas City, Chiropractic and Health Sciences, Federation of Chiropractic Licensing Boards, Lehi, UT 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, Cleveland University Kansas City, Chiropractic and Health Sciences, Federation of Chiropractic Licensing Boards, Lehi, UT 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 in 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, Cleveland University Kansas City, Chiropractic and Health Sciences, Federation of Chiropractic Licensing Boards, 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. Specific discussion of proper format of the Assessment portion of clinical documentation was presented. Review of the difference between daily progress notes and Evaluation and Management [E/M] reporting was provided. National Spine Management Group, Cleveland University Kansas City, Chiropractic and Health Sciences, Federation of Chiropractic Licensing Boards, 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, Cleveland University Kansas City, Chiropractic and Health Sciences, Federation of Chiropractic Licensing Boards, 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, Cleveland University Kansas City, Chiropractic and Health Sciences, Federation of Chiropractic Licensing Boards, 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, Cleveland University Kansas City, Chiropractic and Health Sciences, Federation of Chiropractic Licensing Boards, 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, Cleveland University Kansas City, Chiropractic and Health Sciences, Federation of Chiropractic Licensing Boards, 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, Cleveland University Kansas City, Chiropractic and Health Sciences, Federation of Chiropractic Licensing Boards, 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, Cleveland University Kansas City, Chiropractic and Health Sciences, Federation of Chiropractic Licensing Boards, 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, Cleveland University Kansas City, Chiropractic and Health Sciences, Federation of Chiropractic Licensing Boards, Buffalo, NY, 2021

Clinical Grand Rounds – Patient Triage – testing and physical examination workflows – evidence-based evaluation of the spine pain patient was outlined and presented. Thorough review of criteria for ordering plain film and advanced imaging was discussed and demonstrated. Clinical rationale for ordering electrodiagnostic testing and patient referral criteria overview was demonstrated. EMR and documentation workflows were discussed, and efficiency protocols were outlined and applied to evidence based physical examination procedures with and without a medical scribe. Details of re-evaluations and clinical outcomes were reviewed and discussed. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards, State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences – 2021.

Objectifying the 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, Cleveland University Kansas City, Chiropractic and Health Sciences, Federation of Chiropractic Licensing Boards, Buffalo, NY, 2021

Clinical Grand Rounds – Classification of Cervical Degenerative Disc Disease – review of a radiographic rating system for objective assessment of intervertebral disc degeneration in the cervical spine. The degree of degeneration was organized based on loss of disc height, formation of osteophytes and the presence of diffuse sclerosis of adjacent vertebral bodies. Specific details of assessment were outlined and presented. Comparison of plain film radiographs to cadaver specimens was demonstrated and discussed. Review of interobserver validity of the grading system between observers was presented. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards, State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences – 2021

Clinical Grand Rounds – Differentiating Degenerative vs Traumatic Cervical

Spondylolisthesis – outline of spondylolisthesis clinical work up in the presence of spine pain including plain film dynamic radiographs, regional MRI study and assessment of alteration of motion segment integrity of specific spinal segments. Review of the correlation of present segmental degenerative changes such as loss of disc height, osteophyte formation, ligament ossification and facet joint hypertrophy and its association to pre-existing spondylosis was presented. Detailed discussion of past and present medical history including past traumatic events was emphasized. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards, State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences. 2021.

Clinical Grand Rounds – Mechanical Response of Damaged Human Cervical Spine

Ligaments – discussion of the biomechanical properties of cervical spinal ligaments under sub-failure loads. Ligaments discussed were the Anterior Longitudinal Ligament, Posterior Longitudinal ligament, and the Ligamentum Flavum. Deformations exceeding physiological limitations were presented and reviewed. Grade I and Grade II injuries were outlined and discussed. Presentation included observed ligamentous injury significantly compromising ligament ability to give tensile support within physiological spinal motion. Findings were clinically correlated to long term sequelae in Alteration of Motion Segment Integrity and the AMA Guides to the Evaluation of Permanent Impairment 5th and 6th Editions. National Spine Management

Group, LLC, Federation of Chiropractic Licensing Boards, State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences – 2021.

Clinical Grand Rounds – Facet Joint Thresholds and Alteration of Motion Segment

Integrity – discussion of the predominant mode of joint loading of the cervical facet joints during whiplash injury related to retraction tension on the facet joint capsule. Review of shear forces, translation of the inferior and superior facet joint as well as injury risk due to excessive stretching of spinal ligaments was presented. Overview and discussion of mechanical trauma to ligament tissue and subsequent microstructural damage not visibly detected was outlined. Threshold for microstructural changes during retraction, reduced ligament stiffness and unrecovered strain was discussed in detail. Individual response to facet joint capsule response supported in the medical literature was presented. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards, State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences – 2021

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, Long Island, New York, 2020

Documentation & Clinical Excellence, utilizing documentation to accurately reflect the Evaluation and Management code billed. Inclusive of a complete current, past history, previous care, and a full review of systems. The management of post-traumatic cases in a collaborative environment in a literature-based standard. Academy of Chiropractic Post-Doctoral Division, PACE Approved for the Federation of Chiropractic Licensing Board, Long Island, New York, 2020

Solution Based Documentation & Clinical Excellence, A case study of managing a patient where the MRI was inaccurate based upon literature standards and the collaboratively working through a system in triaging an extruded disc patient from psychological support to appropriate surgical care. Academy of Chiropractic Post-Doctoral Division, PACE Approved for the

Federation of Chiropractic Licensing Board, Long Island, New York, 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 sequelae to injury diagnosis. Academy of Chiropractic Post-Doctoral Division, PACE Approved for the Federation of Chiropractic Licensing Boards, 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, PACE Approved for the Federation of Chiropractic Licensing Board, Long Island, New York, 2020

Improving Quality & Treatment Outcomes & Clinical Care and Risk Management, Review of best practices in clinical procedures to improve patient care, promote safety and reduce practice risks with proper patient documentation. Health Network Solutions, North Carolina Licensing Board of Chiropractic Examiners, North Carolina, 2020

Compliance & Cultural Competency Training for Contracted Health Care Professionals, Education and training regarding the laws and regulations that govern the health care industry to ensure compliance to those laws. Health Network Solutions, North Carolina Licensing Board of Chiropractic Examiners, North Carolina, 2020

ICD-10 Code & Reimbursement Changes, Clinical update on proper codes for diseases, signs and symptoms, abnormal findings, complaints, social circumstances, and external causes of injury or diseases. Health Network Solutions, North Carolina Licensing Board of Chiropractic Examiners, North Carolina, 2020

Certification in Advanced Examination and Proficiency rating of spinal ligament injuries, Biocybernetics, Inc., Clearwater, Florida, 2020

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, PACE Recognized by the Federation of Chiropractic Licensing Boards, 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, PACE Recognized by the Federation of Chiropractic Licensing Boards, 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, PACE Recognized by the Federation of Chiropractic Licensing Boards, 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, PACE Recognized by the Federation of Chiropractic Licensing Boards, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019

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, PACE Recognized by the Federation of Chiropractic Licensing Boards, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019

Forensic Documentation- Reporting Patient History and Credentials, *Reporting 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, PACE Recognized by the Federation of Chiropractic Licensing Boards, 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, PACE Recognized by the Federation of Chiropractic Licensing Boards, 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, PACE Recognized by the Federation of Chiropractic Licensing Boards, 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, PACE Recognized by the Federation of Chiropractic Licensing Boards, 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, PACE Recognized by the Federation of Chiropractic Licensing Boards, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2019

Coding, Documentation and Compliant Coding, PACE Approved for the Federation of Chiropractic Licensing Boards, Academy of Chiropractic Post-Doctoral Division, Long Island, New York, 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, 2018

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, 2018

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, Long Island, NY, 2018

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, 2018

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, 2018

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, 2018

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, 2018

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, 2018

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, 2018

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, 2018

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, 2019

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, 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

Current Literature Standards of MRI Spine Interpretation; Primary Spine Care 5, MRI Spine Interpretation of the spine. How to triage a trauma and non-trauma with advanced imaging and document the necessity. Basics of MRI Spine Interpretation inclusive of all types of herniations, bulges, 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

Spine Brain Connection in Pain Pathways; Primary Spine Care 5 , MRI Spine The spine-brain connection in managing chronic pain patients. Understanding how chronic pain negatively affects brain morphology and potential pathology as sequella. The role of chiropractic in preventing the loss of gray matter and the most recent evidence as outlined in indexed peer reviewed literature over the last 10 years verifying chiropractic's role, 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

Bio-Neuro-Mechanical Mechanism of the Chiropractic Spinal Adjustment; Primary Spine Care 5, The biological, neurological, and mechanical mechanisms, and pathways from the thrust to the lateral horn and brain connection and how the brain processes the chiropractic spinal adjustment based upon the literature. Care paths of chiropractic and physical therapy from an outcome basis, 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

Triaging and reporting while maintaining ethical medical-legal relationships, Neurodiagnostic, 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. Cleveland University – Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, NY 2018

Physical Examination & Documentation for the Trauma Patient, Neurodiagnostic, 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. Cleveland University – Kansas City, Academy of Chiropractic

Post-Doctoral Division, Long Island, NY 2018

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 targetcar. 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. Cleveland University – Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, NY 2018

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. Cleveland University – Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, NY 2018

Neurodiagnostic 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-Electronystagmography (V-ENG) interpretation, protocols, and clinical indications for the trauma patient. Cleveland University – Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, NY 2018

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. Cleveland University – Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, NY 2018

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. Cleveland University – Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, 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. Certification in Spinal Biomechanical Engineering, Cleveland University – Kansas City, ACCME Joint Provider ship 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. Cleveland University – Kansas City, ACCME Joint Provider ship 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. Cleveland University – Kansas City, ACCME Joint Provider ship 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 sequelae 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. Cleveland University – Kansas City, ACCME Joint Provider ship 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. Cleveland University – Kansas City, ACCME Joint Provider ship 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. Cleveland University – Kansas City, ACCME Joint Provider ship 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. Cleveland University – Kansas City, ACCME Joint Provider ship 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. Cleveland University – Kansas City, ACCME Joint Provider ship 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, Central Nervous System and Spinal Disc Nomenclature, the application of spinal biomechanical engineering models in trauma and the negative sequelae it has on the central nervous system inclusive of the lateral horn, periaqueductal grey matter, thalamus, and cortices involvement. Cleveland University – Kansas City, ACCME Joint Provider ship with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2018

Biomechanics of Traumatic Disc Bulge and Age Dating Herniated Disc Pathology, The biomechanics of traumatic disc bulges as sequelae from trauma and the comorbidity of ligamentous pathology. Age-dating spinal disc pathology in accordance with Wolff's Law. Cleveland University – Kansas City, ACCME Joint Provider ship with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2018

Diagnostic dilemmas and connective tissue Morphology, 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. Cleveland University – Kansas City, ACCME Joint Provider ship with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2018

Ligament anatomy and injury research and spinal kinematics, 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. Cleveland University – Kansas City, ACCME Joint Provider ship with the State University of

New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 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. Cleveland University – Kansas City, ACCME Joint Provider ship with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2018

Spinal trauma pathology, Research and documentation Review, The review of current literature standards in spinal trauma pathology and documentation review of biomechanical failure, ligamentous failure, and age- dating disc pathology. Cleveland University – Kansas City, ACCME Joint Provider ship with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 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. Cleveland University – Kansas City, ACCME Joint Provider ship 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

Cervical Spine Orthopedic Testing, 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. Cleveland University – Kansas City, ACCME Joint Provider ship 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 Part 2, 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. Cleveland University – Kansas City, ACCME Joint Provider ship 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. Cleveland University – Kansas City, ACCME Joint Provider ship 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: 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. Cleveland University – Kansas City, ACCME Joint Provider ship 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 or PACE Recognized by The Federation of Chiropractic Licensing Boards], ACCME Joint Provider ship 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

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. [Texas Chiropractic College or PACE Recognized by The Federation of Chiropractic Licensing Boards], Academy of Chiropractic Post-Doctoral Division, Long Island, 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. Cleveland University – Kansas City, ACCME Joint Provider ship 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 Part 2, 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. Cleveland University – Kansas City, ACCME Joint Provider ship 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. Cleveland University – Kansas City, ACCME Joint Provider ship 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 & 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. Cleveland University – Kansas City, ACCME Joint Provider ship 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. Cleveland University – Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, 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. Cleveland University – Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, 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. Cleveland University – Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, 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. Cleveland University – Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2018

Patient Intake, History and Physical Examination, Determining the etiology of the patient's complaints in a traumatic or non-traumatic scenario. Analyzing the patient's past history and review of systems along with the performance of a complete orthopedic, neurological, and clinical examination to correlate both past, current and causality issues to formulate an accurate diagnosis, prognosis, and treatment plan. There is an emphasis on triaging both the trauma and non-trauma patients. [Texas Chiropractic College or PACE Recognized by The Federation of Chiropractic Licensing Boards], Academy of Chiropractic Post-Doctoral Division, Long Island, 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 reimbursor's requirements for complete documentation. Cleveland University – Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2018

Interprofessional Hospital Based Spine Care, Trends in hospital and emergent care in the healthcare delivery system inclusive of policies, hospital staffing and current care paths for mechanical spine issues. Cleveland University – Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2018

Documenting Trauma and Non-Trauma Cases and 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

Utilization of Research in the Clinical setting, utilizing peer reviewed scientific literature in creating a diagnosis, prognosis, and treatment plan for the chronic and acute patient. How to implement and stay current on techniques and technology in healthcare. [Texas Chiropractic

College or PACE Recognized by The Federation of Chiropractic Licensing Boards], Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2018

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 NY, 2018

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 NY, 2018

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 NY, 2018

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 NY, 2018

Improving Quality & Treatment Outcomes of Clinical Care and Risk Management, Review of current state and federal documentation requirements including outcome measures to ensure optimal patient care. HealthNetwork Solutions, North Carolina State Board of Chiropractic Examiners, 2018

Primary Spine Care 6: 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-dated 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. Cleveland University Kansas City, Chiropractic and Health Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island NY, 2018

Primary Spine Care 6: Spinal Biomechanical Engineering Digitizing, integrating automated mensuration into creating treatment plans and determining maximum medical improvement. A literature-based study of normal vs. abnormal motor unit function. Determining ligamentous laxity, alteration of motion segment integrity and pathological stress units and whole person impairments based upon the literature and academic standards, Cleveland University Kansas City, Chiropractic and Health Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island NY 2018

Primary Spine Care 6: 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. Cleveland University Kansas City, Chiropractic and Health Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island NY 2018

Primary Spine Care 6: 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 Daubert standards with ensuring a 2014- cornered inclusive report. Ensuring Primary Care Status based upon an academic standards. Cleveland University Kansas City, Chiropractic and Health Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island NY 2018

Credentialed in MRI Interpretation, ACCME Joint Sponsorship with the State University of New York at Buffalo, School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, recognized by the PACE Program of the Federation of Chiropractic Licensing Boards, Buffalo, New York, 2018

Certification in Trauma Team Member, Academy of Chiropractic, 2018

Understanding whiplash, Details concerning the biomechanics of low-speed rear impact collisions. This includes discussions on the S shaped curve of the spine, general magnitudes of force, factors associated with increased risk of injury and the types of injuries that result from these collisions. DcHours, 2010

BASIC MRI PART 1, This course describes the basic fundamental principles shared by all MRI scanners in producing MRI images 2010

BASIC MRI PART 2, A discussion regarding the multiplanar images of MRI, the shades of gray and the differences between T1 and T2 weighted images. We will then explore the special MRI studies that have been created to help identify different pathologies. This will include discussions on Fat Suppression, Contrast Enhanced and Functional MRI studies. 2010

BASIC MRI PART 3, Discussion of Contraindications to MRI, how to read an MRI report, the MRI appearance of DDD, Ligamentum Flavum Hypertrophy, Disc Herniations, Annular Tears and Post-disc Surgical cases. 2010

PASSIVE CARE MODALITIES PART 1, Passive Care Modalities provide detailed instruction on symptom-based care. This will include a discussion regarding thermal therapies and electric stimulation and TENS unit integration as an effective pain management tool. 2010

PASSIVE CARE MODALITIES PART 2, In this course we will continue our discussion on Passive care Modalities. This course will provide information and instruction on Ultrasound, Trigger Point Therapy, and Traditional Traction. 2010

FUNCTION BASED CARE PART 1, Instructions are provided to physicians on the basic

principles of function-based care. It will include a discussion on how to demonstrate medical necessity for function-based care, how to perform physical capacity tests, and how to prescribe specific exercises related to the patient's ability to perform those tests. 2010

FUNCTION BASED CARE PART 2, Function Based Care picks up with Neuromuscular Re-education. In this course we will discuss the theory of this treatment as well as how to demonstrate medical necessity for these exercises. This course will also discuss stretching exercises and postural correction exercises. 2010

BASIC CASE MANAGEMENT, this course will provide you with the basic principles of case management. It will include discussion on evaluation, diagnosis, setting goals and treatments. As part of this course, you will also be introduced to the use of outcome assessments. 2010

Chiropractic in the World of Sports Injuries, Diagnosis, and treatment of athletic injuries Review of protocols and evaluation of field injuries with special consideration of head and brain injuries. Palmer College of Chiropractic Institute for Professional Advancement, 2000

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 99202-99203-99204-99205. Academy of Chiropractic Post-Doctoral Division, PACE Approved for the Federation of Chiropractic Licensing Boards, Cleveland University, Kansas City, Missouri, 2000

Pain Management, an overview of the fundamentals of pain medicine in addition to identifying best practices and practical approaches to the treatment of common pain disorders. Focused, case-based lectures designed to advance patient outcomes by improving the assessment, diagnosis, treatment, and management of patients with various acute and chronic pain disorders. Cleveland Chiropractic College and American Academy of Pain Management, 1998

Validating Chiropractic, 20 years of research in scientific literature and how to apply it clinically to improve patients' health, function, and quality of life. Life College - School of Chiropractic, 1993

AMA Guidelines to the Evaluation of Permanent Impairment of musculoskeletal injuries, this course is specifically designed to educate and prepare physicians in the use of the AMA Guidelines to the Evaluation of. Permanent Impairment. Perform musculoskeletal permanent impairment ratings according to the AMA Guides to the Evaluation of Permanent Impairment. Life College - School of Chiropractic, 1993

Whiplash and Spinal Trauma, Current review of medical, legal and insurance developments and information necessary to successfully evaluate, treat and manage patients with whiplash, spinal trauma, and personal injury claims. Life College - School of Chiropractic, 1993

SELECTED TEACHING/INSTRUCTING/LECTURING/CONSULTING

Instructor, Advanced Musculoskeletal Evaluation and Diagnosis Technologies, Myotronics-Noromed, New York, New York, 1996

Instructor, Advanced Musculoskeletal Evaluation and Diagnosis Technologies workshop, Myotronics-Noromed, Newark, New Jersey, 1996

SELECTED PUBLICATIONS

Stockstad, M. (2003). The World's Best Kept Health Secret Revealed. 297 - 277

SELECTED MEMBERSHIPS

National Spine Management Group, 2021 – Present

Academy of Chiropractic, 2018 - 2021

The American Academy of Medical-Legal Professionals, 2018 – Present

Foundation for Wellness Professionals, 2014 – Present

North Carolina Chiropractic Association, (Vice President Western District 2014-2015),

American Chiropractic Association, 1990 - 2020

Doctors for Health and Wellness Foundation, 2016 - 2018

American Academy of Pain Management, 1998 - 1999

American Association of Spine Physicians, 1998 - 1999

International Chiropractic Association, 1990 - 1992

SELECTED COMMUNITY SERVICE

Mission Hospital Chaplain, Asheville, North Carolina, 2000 - 2016

Lecture for Community health issues, 1991 – Present

Lecturer for UNCA College for Seniors 2000