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SELECTED OCCUPATIONAL HISTORY

Chiropractor/Owner, Zilahy Chiropractic Office DBA Accident and Injury Care, Watertown, CT,
1977 – Present

Medical Practice Associate, St. Mary's Hospital Department of Medicine, Waterbury, CT, 2004
– 2020

Independent Medical Examiner, Exam Coordinators Network, Watertown, CT, 2003

EDUCATION AND LICENSURE

Doctor of Chiropractic, Licensed in the State of Connecticut, License # CT00172, 1976 – 2023

Doctor of Chiropractic, Licensed in the State of Alabama, License # 2826, 2023 – present

Acupuncturist, Licensed in the State of Connecticut, License #000282, 1998-present

Doctorate of Chiropractic, Palmer College of Chiropractic, Summa Cum Laude, Davenport,
Iowa, 1976

National Board of Chiropractic Examiners, Part II, 1976

National Board of Chiropractic Examiners, Part I, 1976

Undergraduate studies in Mechanical Engineering, Newark College of Engineering, Newark,
New Jersey, 1969 – 1970

BA in Biology, Cum Laude, Rutgers University, Newark, New Jersey, 1973

CERTIFICATIONS, QUALIFICATIONS AND DIPLOMATES

Mini-Fellowship in Advanced MRI Spine Interpretation, Cleveland University – Kansas City,
2024

Fellow, Primary Spine Care, *2-year program on spinal trauma, spinal management, advanced imaging, electrodiagnostics, accident engineering, spinal biomechanical engineering, triaging the injured, stroke diagnosis, demonstrative documentation, connective tissue pathology, ligament pathology diagnosis and management, and spinal treatment evidence-based outcome studies. The program requires collaboration in advanced imaging for spinal and MSK radiology and being published in case studies.* Certified in Joint Providership from the State University of New York at Buffalo, Jacobs School of Medicine, Office of Continuing Medical Education, Cleveland University Kansas City, College of Chiropractic, and the Academy of Chiropractic, Long Island, New York 2023

Mini-Fellowship in Neuroradiology MRI Spine Interpretation, Cleveland University – Kansas City, 2022

'Mini-Fellowship in MSK Extremity Imaging, Cleveland University – Kansas City, 2022

MRI Interpretation Review Qualified, Recognized by Cleveland University-Kansas City, Chiropractic and Health Sciences with courses recognized by the ACCGME in conjunction with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences. Qualification language approved by the American Chiropractic College of Radiology (ACCR) and the American Chiropractic Board of Radiology (ACBR) 2021

Primary Spine Care Qualified, *This qualification includes graduate chiropractic education in healthy and traumatically altered spinal morphology inclusive of osseous, connective tissue and neurological structure, function and pathology. This certifies you are qualified in assessing predictive models in spinal biomechanics and devising engineering paradigms for treatment plans to maximize spinal homeostasis in an evidenced based conclusion. In addition, this qualification acknowledges your expertise in triaging the injured and coordinating collaborative care from the trauma through conclusion of rehabilitation.* Long Island, NY, 2021

Trauma Qualified – Cleveland University, Kansas City, 2024- present

Traffic Crash Investigation 1, Northwestern University Center for Public Safety, 2021

Traffic Crash Investigation 2, Northwestern University Center for Public Safety, 2021

Vehicle Dynamics, Northwestern University Center for Public Safety, 2023

Certification in Functional Diagnostic Medicine, Functional Medicine University, and Co-Sponsored by Southern California University of Health Sciences, Lombard, IL, 2009

Diplomate with the American Clinical Board of Nutrition, 2003 – 2024

Chiropractic Neurology Diplomate Program, *Clinical Neurology And Overview of Central And Peripheral Nervous System.* Diplomate, Motion Palpation Institute, New York Chiropractic College, New York, NY, 2002

National Certification Commission for Acupuncture and Oriental Medicine #13820,
1998-present

SELECTED POST-GRADUATE EDUCATION

Advanced Mini Fellowship in MRI Spine Interpretation, *The identification of intradural tumors within the thecal sac and extradural tumors located outside of the thecal sac. Meningioma and Schwannomas were identified as part of the tumor panel. Determining epidural veins as space-occupying lesions vs. herniations and extramedullary tumors.* Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, College of Chiropractic, Long Island, 2024

Advanced Mini Fellowship in MRI Spine Interpretation, *Spinal disc herniation variations visualized on MRI, and 3D MRI. Determining protrusions, extrusions-comminuted, extruded-sequestered, focal, and broad-based type herniations. Identifying concentric, transverse, and radial annular fissures in an acute vs. chronic patient.* Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, College of Chiropractic, Long Island, 2024

Advanced Mini Fellowship in MRI Spine Interpretation, *Describing the magnetic resonance imaging (MRI) appearances in patients with a clinical history suggestive of vertebral osteomyelitis and discitis who underwent MRI very early in their clinical course. Visualizing non-specific endplate subchondral changes in the infectious stage.* Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, College of Chiropractic, Long Island, 2024

Advanced Mini Fellowship in MRI Spine Interpretation, *Utilizing advanced Imaging as a critical role in the evaluation of clinically suspected cases of myelopathy and MR imaging (with or without contrast). Identifying compressive causes must be excluded as a cause of myelopathy. Understanding the most common imaging appearance is a nonspecific T2 hyperintense signal in the spinal cord, and thus, a pragmatic diagnostic approach, along with appropriate clinical and biochemical correlation, is essential for arriving at an accurate diagnosis.* Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, College of Chiropractic, Long Island, 2024

Advanced Mini Fellowship in MRI Spine Interpretation, *Determining blind spots in imaging. Based on multiple studies in radiology have also found that detection errors are more common than interpretive errors. This is especially relevant to spine imaging, where differential diagnoses for perceived abnormalities tend to be less complex than those for brain imaging. As an extraspinal finding may be more serious than the original study indication, making detection even more important, scout images are visualized to help conclude an accurate diagnosis.* Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, College of Chiropractic, Long Island, 2024

Advanced Mini Fellowship in MRI Spine Interpretation, *Determining MRI contraindications. Understanding the complications of cardiac implantable devices, metallic intraocular foreign bodies, cochlear implants, drug infusion pumps, catheters, metallic fragments, cerebral artery aneurysm clips, magnetic dental implants, tissue expanders, artificial limbs, hearing aids and piercings as contraindications.* Academy of Chiropractic Post-Doctoral Division, Cleveland University Kansas City, College of Chiropractic, Long Island, 2024

Primary Spine Care 17, Current and Future Trends in Documentation, *Evidence-Based demonstrative documentation for creating successful patient-centered collaborative care. Using "reputation building" through effective documentation to develop relationships with MD PCPs, MD Specialists, ERs, and Urgent Care Centers. Using demonstrative evidence will eradicate the Non-Specific Back Pain "Dogma," allowing chiropractic utilization to increase based on the evidence.* Cleveland University Kansas City, Chiropractic and Health Sciences, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2025

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

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

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

Primary Spine Care 17, *Advanced Credential Reporting, creating a professional bio and CV, essential for establishing credibility in the medical-legal field. Incorporating outcome statistics from cases helps demonstrate your work's real-world impact, especially in the medical legal*

arena. Getting published in the National Institutes of Health (NIH) using research, peer review, and adherence to scientific standards and enhances your reputation by validating your work within the healthcare community and increasing your authority in the healthcare community field. Cleveland University Kansas City, Chiropractic and Health Sciences, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2025

Primary Spine Care 17, Age-Dating Herniated Disc via MRI and X-Ray, Utilizing *the evidence in the literature to age-dating spinal herniated discs and trauma. Including interpreting X-rays, MRIs in T1, T2, STIR and Fat Saturation sequences, and other imaging alongside understanding the evidence of joint pathology. Being able to collaborate with physicians or as a medical-legal expert. Accurate age-dating helps establish a prognosis for patient recovery. The process must be grounded in evidence-based rationale to ensure reliability. Mastering this skill enhances both clinical decision-making and legal credibility.* Cleveland University Kansas City, Chiropractic and Health Sciences, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2025

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

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

Primary Spine Care 16, MRI Spine Interpretation, *Identifying and diagnosing spinal disc pathologies: bulged, herniated, protruded, extruded-comminuted, extruded-sequestered. MRI sequence protocols: T1, T1 fat saturation, T2, T2 fat saturation, STIR, proton density, fast spin echo, echo gradient, coronal, sagittal and axial. Triage of disc pathologies and collaborative care.* ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, PACE Approved for the Federation of Chiropractic Licensing Board, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2024

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

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

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

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

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

University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, PACE Approved for the Federation of Chiropractic Licensing Board, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2024

Vehicle Dynamics, Northwestern University Center for Public Safety (NUCPS), Evanston, IL, An advanced study in the application of mathematics and physics to traffic crash reconstruction. This course builds upon foundational knowledge from Math & Physics Review for Crash Reconstruction, focusing on mechanics, Newton's Laws of Motion, equations of motion, vehicle braking, drag factors, coefficients of friction, momentum (collinear), and time-distance analysis, 2023

Documentation, Demonstrative and Compliance, *Elements of Evaluation and Management codes 99202-99203-99204-99205, inclusive of complexity of management and time components. Demonstrative documentation of spinal-related pain generators; spinal cord, thecal sac, myelomalacia, spinal nerve root insult, connective tissue, recurrent meningeal nerves.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2022

2023 Demonstrative Documentation Requirements, *Analyzing the requirements in anatomical diagnostic imagery to communicate spinal pathology. Integrating technology, clinical findings, and advanced graphic tools to communicate a diagnostic conclusion.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2022

MRI Spine Advanced Clinical Case Grand Rounds, *Clinical case review of MRI including intra and extra-dural findings inclusive of the disc and vascular anatomical lesions. Differentially diagnosing central cord lesions, and spinal cord vascular lesions in both acute trauma and degenerative presentations.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2022

Non-Specific Spine Pain, Chiropractic and Outcomes, *Analyzing neuro-biomechanical pathological lesions defines primary spinal lesions and removes the dogma of non-specific back pain. Creating evidence-based demonstrative documentation in the creation of treatment plans.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2022

Spinal Tumor MRI Interpretation, *Diagnosing and documenting: Ependymoma, Astrocytoma, Hemangioblastoma, Lipoma, Meningioma, Neurofibroma, Schwannoma, Myxopapillary Ependymoma.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2022

Demonstrative Narrative and Evaluation and Management Report Writing, *Clinical record-keeping, why write clinical notes, the importance of context, what to include in a clinical note, tips for better clinical documentation, basic legal considerations, open clinical notes, how to keep documentation efficient.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2022

Age-Dating Ligament/Connective Tissue Physiology and Pathology, *Utilizing pain patterns, the high signal in the annulus, high signal outside the annulus, Modic changes, disc height, vacuum disc, sclerosis, Pharrman rating, facet edema, and previous MRIs to determine the chronicity of pathology. Master-Class in ligaments; anatomy, physiology, vascularization, neurological innervation, tissue repair, and how they all relate to clinical practice. Ligament pathology correlating to the mechanisms of patho-neuro-biomechanical lesions (vertebral subluxation complex). Also, how ligaments play a critical role in the chiropractic spinal adjustment and in defining the chiropractic spinal adjustment mechanisms.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2022

Clinical Grand Rounds in Biomechanics, Digitizing, and Advanced Imaging: *Case reviews concluding and accurate diagnosis, prognosis, and treatment plan utilizing evidence-based instrumentation and algorithms. Using demonstrative reporting of case findings to collaborate with co-treating physicians.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2022

Medical-Legal Documentation: *A documentation discussion on meeting the requirements of the courts, carriers, and licensure boards in complete and accurate reporting. Ensuring the diagnosis, prognosis, and treatment plan are demonstratively documented.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2022

Mini-Fellowship in Musculoskeletal Radiology – MSK Extremities, *Identifying arthritis, advanced cartilage pathology, rotator cuff tears, labral tears, tendon injuries and degeneration, meniscal tears, ligamentous injuries, common fractures, sports related injury patterns, and plantar fasciitis in both upper and lower extremities.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2022

Mini-Fellowship in Musculoskeletal Radiology – MSK Extremities – Clinical Research, *Contemporary literature based evidence with rheumatoid, osteo, spondylar, gouty, and Psoriatic arthritides, advanced cartilage pathology, rotator cuff tears, labral tears, tendon injuries and degeneration, meniscal tears, ligamentous injuries, common fractures, sports related injury patterns, and plantar fasciitis in both upper and lower extremities.* Cleveland University Kansas

City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2022

Mini-Fellowship in Neuroradiology – MRI Spine – Part 1, *Evidence-based studies in Modic Changes, Disc and Referred Pain, MRI and Cervical Musculature, Kinetic MRI Images, Neurological Innervation, MRI and Injury Mechanisms, Discogenic Pain, Annular Tears and Fissures, Asymptomatic Herniations*. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2022

Mini-Fellowship in Neuroradiology – MRI Spine – Part 2, *Identify and oral examination of 60 MRI sequences (over 2500 images) of disc bulges, circumferential, radial, and transverse fissures, varices, and herniations inclusive of the following types: protrusion, extrusions (sequestered and migrated/comminuted extrusions). MRI sequencing for accurate interpretation with contemporary nomenclature and reporting*. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2022

Mini-Fellowship in Neuroradiology-MRI Spine -Part 3, *Clinically correlate history, clinical findings, and advanced spinal imaging to conclude an accurate diagnosis, prognosis, and treatment plan in an evidence-based paradigm that passes a peer-reviewed panel. The case presented must emanate from contemporary practice utilizing accepted guidelines for sequence acquisition and collaboration if clinically indicated*. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2022

Chiropractic Diagnosis and management of cervical spine disc herniation was presented. *Differential diagnosis of acute disc injury vs chronic disc herniation was reviewed. Co-management with medical specialist was also reviewed. A discussion of available pain management procedures as also presented*. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2022

Chiropractic Diagnosis of ligament injury to the upper cervical region was presented. *The methods and tools to determine injury to the Occipital-Atlanto and Atlanto-Axial ligaments were presented. Correlation to mechanism of injury and medical legal reports were reviewed. The AO standards for spinal instability was presented*. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2022

Chiropractic Management and treatment planning utilizing Symverta biomechanical assessments was reviewed. *The methods to determine improvement in stability and biomechanical balance as well as co-management with medical specialists was reviewed. Identification of the*

biomechanical primary lesions and compensations associated with the structural compromise was reviewed. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2022

Chiropractic Diagnosis and Management of Degenerative Lumbar Spondylolisthesis – A review of the ligament, biomechanical and neurologic implications of a degenerative lumbar spondylolisthesis was presented. The methods to determine stability and co-management with medical specialists was reviewed. Identification of the biomechanical compensations associated with the structural compromise was reviewed. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2022

Chiropractic Diagnosis and Management of Acute Spinal Ligament Injury – Review of the ligament injury thresholds, methods of diagnosis utilization of SITR pulse Sequence MRI as the gold standard for evaluating the age of and pathophysiology was discussed and presented. Biomechanical assessment of hypermobility associated with ligament laxity was presented along with the specific ligament involved in the clinical picture. When and how to triage to medical specialist was reviewed. Review of the four columns of vertebral architecture was detailed. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2022

Case Management, Documentation, and Diagnosis, Clinically correlating history and clinical findings to biomechanical connective tissue pathology and advanced imaging with herniated, protrude, extruded, and bulging discs. Triageing trauma and chronic patients based upon clinical presentation and testing results. Cleveland University Kansas City, College of Chiropractic, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2022

2022 Trends in Spinal Healthcare, Analyzing evidenced-based spinal healthcare trends in both utilization and necessity and understanding the marketplace. The use of evidenced-based demonstrative documentation in reporting treatment pathways in triaging spinal pathobiomechanics. Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2022

MRI Spine Clinical Case Grand Rounds, Clinical case review of MRI's including sagittal, axial, T1, T2, STIR, and proton density sequences. Identified will be the vertebrate, spinal cord, discs, nerve roots, thecal sac, posterior longitudinal ligament, epidural veins, and fat saturation pulses. Pathology will include bulges, herniations, protrusions, extrusions, myelomalacia, cord edema, and Schmorl's nodes. Learn how to collaborate effectively with radiologists, neuroradiologists, and neurosurgeons on the clinical findings. Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2022

Chiropractic vs. Physical Therapy vs. Medical Case Management and Outcomes, *Analysing evidence-based outcomes in triaging non-anatomical lesions. The analysis of neuro-biomechanical pathological lesions defines primary spinal lesions and removes the dogma of non-specific back pain. Managing collaborative relationships with medical primary providers and specialists in clinical practice.* Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2022

MSK Extremity Radiological Interpretation, *Utilizing both MRI and x-ray in identifying via x-ray and advanced imaging extremity instabilities from ligamentous, osseous or neoplastic derangement.* Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2022

Demonstrative Narrative and Evaluation and Management Report Writing, *Effectively creating demonstrative medical-legal documentation and meeting the needs of the courts, and making your "4-Corner" (narrative) report to build your reputation as an evidence-based provider. **The step-by-step minutiae of building a report**, accomplishing report writing timely and effectively by understanding the regulatory and administrative rules. Learn how to educate the lawyer on bodily injury through evidence-based demonstrative reporting.* Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2022

Ligament/Connective Tissue Physiology and Pathology, *Master-Class in ligaments; anatomy, physiology, vascularization, neurological innervation, tissue repair and how they all relate to clinical practice. Ligament pathology correlating to the mechanisms of patho-neuro-biomechanical lesions (vertebral subluxation complex). Also, how ligaments play a critical role in the chiropractic spinal adjustment and in defining the chiropractic spinal adjustment mechanisms.* Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2022

Stroke Evaluation and Risk Factors in the Chiropractic Practice, *Diagnosing, triaging, and documenting headaches, migraines, and vascular incidents (stroke) in the primary provider's office. Imaging protocols based upon history and clinical presentation will be presented, along with analyzing imaging findings in determining the etiology. There will be an extensive question and answer session following the instructional presentation.* Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2022

Age-Dating Herniated Discs and Trauma, *Age dating herniated discs and trauma is a critical skill for an expert in spine. It combines the clinical skills of interpreting X-ray, MRI, and other imaging modalities with a clinician's understanding of joint pathology. This level of expertise is critical when collaborated with other physicians or working in the medical-legal environment as*

an expert. Age dating pathology is also central to creating a prognosis on your patient's recovery and must be evidence-based in rationale. Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2022

Clinical Grand Rounds in Spinal Biomechanics, Case reviews utilizing E/M, MRI, and x-ray mensuration report to conclude an accurate diagnosis, prognosis, and treatment plan. Common diagnosis requiring interprofessional collaboration with a discussion of diagnostic dilemmas and proper communication methods. Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2022

Neurosurgical Grand Rounds, A clinical discussion of collaborating with neurosurgeons on spinal cord and spinal nerve root co-morbidities. Triaging cases with herniated, protruded, extruded, fragments discs and differentially diagnosing tethered cord, syringomyelia, traumatic Schmorl's Nodes, Myelomalacia, spinal cord edema, vacuum disc and other intra, and extra-dural lesions. Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2022

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, 2022 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, 2022 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, 2022

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, 2022

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, 2022

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, 2022

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, 2022

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, 2022

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, 2022

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, 2022

Medical-Legal-Insurance Documentation, *Accurate and compliant documentation of history and clinical findings inclusive of functional losses, loss of activities of daily living, duties under duress and permanent loss of enjoyment of life. Prognosing static vs. stable care, gaps in care both in the onset and in the middle of passive care with a focus on detailed diagnosing. The integration of chiropractic academia, the court system and the insurance reimbursers' requirements for complete documentation.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 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.* Cleveland University – Kansas City, Academy of Chiropractic post-Doctoral Division, Long Island, NY, 2022

Medical and Interprofessional Communication, *Detailed overview of medical legal communication in relation to patient subjective and objective clinical findings. Outline of direct and cross-examination techniques were presented. Overview of Voir Dire and Daubert hearings were outlined. Discussion of examination of proof in relation to causality, bodily injury, and persistent functional losses was reviewed. Court testimony flow, professional expectations, and court room etiquette was presented and emphasized.* National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards, Cleveland University Kansas City, College of Chiropractic, Ft. Lauderdale, FL, 2022

Spine Management, *Discussion and outline of case management workflows related to the management of acute and chronic spine pain with a particular focus on pain of traumatic origin. Evidence-Based communication and Electronic Health Record processes were emphasized and presented. Patient management and triage based on patient history, physical examination and imaging findings was outlined. Overview of interprofessional referral options including physical therapy, interventional pain management and spine surgery was discussed in detail. Spine Management as concept was discussed by Dr. John Edwards, neurosurgeon in relation to reducing escalation of non-urgent cases as well as creating space for patients with urgent need.* National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards, Cleveland University Kansas City, College of Chiropractic, Ft. Lauderdale, FL, 2022

Documentation and Communication in Spine Management, *Presentation of compliant healthcare documentation including E/M initial and re-evaluations, daily progress notes and medical-legal narrative reports was provided. Workflows detailing interprofessional referral language, advanced imaging requests and patient communication were detailed. Streamlined processes for creating and maintaining compliant, evidence based, patient centered clinical reporting was given. Emphasis was placed on the role of a Spine Management Physician in the processes of interprofessional communication and case management* National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards, Cleveland University Kansas City, College of Chiropractic, Ft. Lauderdale, FL, 2022

Histology and Physical Tolerance of Spinal Ligaments, *Presentation of the histological structural organization of spinal ligaments including analysis of tropocollagen as the basis for anatomical structure. Review of the structural hierarchy of the spinal ligament from microscopic to macroscopic was included. Anisotropic properties of spinal ligaments were defined, and examples presented. Detailed review of spinal entheses was presented with emphasis on advanced imaging and chronic enthesopathy. New insights into the pathogenesis, diagnostic modalities, and treatment of spinal enthesitis was outlined and presented. Specific focus was on traumatic injury to the spinal entheses and the difference in formation of spinal osteophytes and enthesophytes. Biomechanics of the degenerative spine was detailed and reviewed in terms of clinical spine management.* National Spine Management Group, LLC, Federation of Chiropractic

Licensing Boards, Cleveland University Kansas City, College of Chiropractic, Ft. Lauderdale, FL, 2022

Accident Reconstruction and Expert Reporting, *Crash dynamics and basic physics formulas were presented and detailed. Review of biomechanical expert reports and included mathematics was discussed with context given to data collection and accuracy. Spinal injury thresholds were reviewed as well as the Law of Conservation of Energy and its relationship to crash dynamics. Specific mathematical examples were presented including workflows to review the accuracy of biomechanical expert reporting and mathematical formulas.* National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards, Cleveland University Kansas City, College of Chiropractic, Ft. Lauderdale, FL, 2022

Degenerative versus Acute Ligament Laxity, *An updated scientifically validated grading system for the identification of degeneration of the intervertebral disc and motion segment was presented. Details such as radiographic signs of disc degeneration including loss of disc height, osteophyte formation and diffuse sclerosis were provided. Grading examples were provided in radiographic and gross specimen form starting with Grade 0 (no degeneration) to Grade 3 (severe degeneration). Outline of the validity and interobserver agreement of this grading system was shown for both the cervical and the lumbar spine. Review and emphasis on the difference between osteophyte formation and enthesophytes was again outlined.* Ft. Lauderdale, FL, 2022

Chiropractic Science Research —, *Review and presentation of updated peer-reviewed medically indexed research supporting chiropractic management of spine pain was detailed. Timeline of publication was emphasized with three years being the maximum timeframe for up-to-date data. Comprehensive review of evidence supporting chiropractic management of the spine pain patient in the Pain Management, Corrective, and the Health Maintenance Phases of care. Methods to communicate this evidence to the medical and legal communities was presented in the context of compliant patient centered clinical documentation. Efficiency of a Spine Management Physician versus conventional primary care was presented. Emphasis on the hierarchy of published evidence starting with Foundational Evidence up to Level 1 evidence was presented.* Ft. Lauderdale, FL, 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 taskforces 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, Buffalo, NY, 2022.

Clinical Grand Rounds - Degenerative versus Acute Intervertebral Disc Pathology, *review of the scientific and validated process for evaluating degenerative disc disease in the human spine was*

reviewed. Detailed analysis of differentiating between acute and chronic changes was emphasized. Overview and discussion of advanced imaging as well as plain film radiographs with dynamic views was presented. Review in detail of the Pfirrmann scale and its association with intravertebral disc degeneration was presented including all Pfirrmann grades with illustrative reference. 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, Buffalo, NY, 2022

Clinical Rounds-Chiropractic Management- MRI Lumbar Spine- axial anatomy, detailed review of anatomical structures on the axial slices of lumbar spine MRI were presented. Musculature presented included gluteus medius, psoas major, multifidus, iliacas, lumbar paraspinals and quadratus lumborum in both the T1 and T2 axial sequences. Traversing vs exiting spinal nerves were contrasted and compared to cervical spine. Neurological structures such as conus medullaris, cauda equina, /Hum terminale, 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 iliolumbar were detailed. 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, Buffalo, NY, 2022

Trends in Spinal Healthcare, Analyzing spinal healthcare trends in both utilization and necessity and understanding the marketplace and how a clinical excellence level is reflected in a doctor's documentation and credentials. Treatment pathways in triaging spinal pathobiomechanics. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

MRI Spine Interpretation Advanced Diagnosis, 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, T1, T2, STIR and Proton-Density weighted evaluation to diagnose spine from MRI accurately. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Spinal Biomechanical Engineering Analytics and Case Management, Utilizing spinal measuring algorithms to conclude a pathobiomechanical vs. normal spine in the absence of anatomical pathology. Clinically correlating a history and physical examination findings to x-ray biomechanical results in creating an accurate diagnosis, prognosis, and treatment plan. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

MSK Extremity Radiological Interpretation, *Utilizing both MRI and x-ray to diagnose 1) Arthritis - Inflammatory and Degenerative, 2) Advanced cartilage assessment, 3) Rotator Cuff Tears, 4) Labral tears (shoulder and hip), 5) Tendon injuries and degeneration, 6) Meniscal tears, 7) Ligamentous injuries, 8) Common fractures, 9) Sports-related injury patterns, 10) Plantar fasciitis.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Demonstrative Medical-Legal Documentation, *The narrative report. How to effectively create medical-legal documentation and what the courts look for. Making your "4-Corner" (narrative) report demonstrable and build a reputation as an evidence-based provider. The step-by-step minutiae of building a report.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Managing Non-Anatomical Spine Pain, *Treatment modalities centered upon "best-outcomes" in an evidence-based model considering chiropractic vs. physical therapy and chiropractic vs. medicine. Considerations of disability, pain reduction, functional improvement, drugs utilized, and side-effects are all considered.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Documentation and Coding, *CPT Coding Guidelines for Initial and Established Patients with particular attention paid to Patient History, Review of Systems, Social and Family History, Physical Examination, and Medical Decision making. Specific differences in coding levels and required elements for a 99202-99203-99204-99205, and a 99212-99213-99214-99215.* Academy of Chiropractic Post-Doctoral Division, PACE Approved for the Federation of Chiropractic Licensing Boards, Cleveland University- Kansas City, Long Island, NY, 2021

Demonstrative Documentation and Ethical Relationships, *Pathways to improve coordination of care, and interprofessional communication with collaborating physicians. Maintaining ethical relationships in the medical-legal community through documentation and communication of demonstrable diagnosis, prognosis, and treatment plans.* Academy of Chiropractic Post-Doctoral Division, PACE Approved for the Federation of Chiropractic Licensing Boards, Cleveland University- Kansas City, Long Island, NY, 2021

MRI Spine Interpretation, Clinical case review of MRI's including sagittal, axial, T1, T2, STIR, and proton density sequences. Identified will be the vertebrae, spinal cord, discs, nerve roots, thecal sac, posterior longitudinal ligament, epidural veins, and fat saturation pulses. Pathology will include bulges, herniations, protrusions, extrusions, myelomalacia, cord edema, and Schmorl's nodes. Cleveland University – Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2021

Spinal Biomechanical Engineering Clinical Grand Rounds, *Case reviews utilizing E/M, MRI, and x-ray mensuration report to conclude an accurate diagnosis, prognosis, and treatment plan.*

Common diagnosis requiring interprofessional collaboration with a discussion of diagnostic dilemmas and proper communication methods. Cleveland University – Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2021

MRI Spinal Anatomy, Protocols and Disc Pathology, Normal anatomy of axial and sagittal views utilizing T1, T2, gradient and STIR sequences of imaging. Degeneration and annular fissures of discs in both trauma and non-trauma patients and the biochemical properties of joints in age dating pathology. Disc bulges from degenerative and sequela to osseous issues, herniation pathology and protrusion, extrusion, migrated and sequestered variations. Clinical scenarios as sequela to disc and pre-existing pathologies. Cleveland University – Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2021

MRI Spine Interpretation, Herniated, bulged, extruded, protruded, sequestered and degenerative discs. The morphology of a pathological disc vs. normal morphology and the sequences required including T1, T2 and STIR for all spinal regions. Modic 1-2-3 changes detailed and the traumatic relationship. Cleveland University – Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2021

Extremity MRI & Xray Interpretation of the Shoulder, Identifying normal anatomy on both MRI and x-ray, inclusive of osseous, connective tissue, and neurological structures. Identifying fractures in the adult and pediatric cases. Differentially diagnosing various arthritic etiologies of osseous derangement. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Extremity MRI & Xray Interpretation of the Shoulder, Identifying fractures in the adult and pediatric cases. Differentially diagnosing various arthritic changes vs. benign and metastatic Tumors. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Extremity MRI & Xray Interpretation of the Elbow, Identifying normal anatomy on both MRI and x-ray, inclusive of osseous, connective tissue, and neurological structures, identifying fractures in the adult and pediatric cases. Differentially diagnosing various arthritic etiologies of osseous derangement. Differentially diagnosing various arthritic changes vs. benign and metastatic Tumors. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Extremity MRI & Xray Interpretation of the Wrist, Identifying normal anatomy on both MRI and x-ray, inclusive of osseous, connective tissue, and neurological structures, identifying fractures

in the adult and pediatric cases. Differentially diagnosing various arthritic etiologies of osseous derangement. Differentially diagnosing various arthritic changes vs. benign and metastatic Tumors. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Extremity MRI & Xray Interpretation of the Hand, *Identifying normal anatomy on both MRI and x-ray, inclusive of osseous, connective tissue, and neurological structures, identifying fractures in the adult and pediatric cases. Differentially diagnosing various arthritic etiologies of osseous derangement. Differentially diagnosing various arthritic changes vs. benign and metastatic Tumors.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Extremity MRI & Xray Interpretation of the Hip, *Identifying normal anatomy on both MRI and x-ray, inclusive of osseous, connective tissue, and neurological structures. Identifying fractures in the adult and pediatric cases. Differentially diagnosing various arthritic etiologies of osseous derangement.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Extremity MRI & Xray Interpretation of the Hip, *Identifying fractures in the adult and pediatric cases. Differentially diagnosing various arthritic changes vs. benign and metastatic Tumors.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Extremity MRI & Xray Interpretation of the Knee, *Identifying normal anatomy on both MRI and x-ray, inclusive of osseous, connective tissue, and neurological structures. Identifying fractures in the adult and pediatric cases. Differentially diagnosing various arthritic etiologies of osseous derangement.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Extremity MRI & Xray Interpretation of the Knee, *Identifying fractures in the adult and pediatric cases. Differentially diagnosing various arthritic changes vs. benign and metastatic Tumors.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Extremity MRI & Xray Interpretation of the Hand, *Identifying normal anatomy on both MRI and x-ray, inclusive of osseous, connective tissue, and neurological structures, identifying fractures in the adult and pediatric cases. Differentially diagnosing various arthritic etiologies of osseous derangement. Differentially diagnosing various arthritic changes vs. benign and metastatic Tumors.* Cleveland University Kansas City, ACCME Joint Providership with the State

University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences,
Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Extremity MRI & Xray Interpretation of the Foot, *Identifying normal anatomy on both MRI and x-ray, inclusive of osseous, connective tissue, and neurological structures, identifying fractures in the adult and pediatric cases. Differentially diagnosing various arthritic etiologies of osseous derangement. Differentially diagnosing various arthritic changes vs. benign and metastatic Tumors.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Case Management, Spinal MRI and Documentation Documenting Herniated Discs, Age-Dating Disc Pathology, and Connective Tissue Pathology as Sequella to Trauma, *Herniated Discs and Connective Tissue Pathology, differentially diagnosing herniated discs vs. normal and bulging discs and protruded, extruded and fragmented discs. Normal vs. Pathological connective tissues and age-dating herniated discs.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Case Management, Spinal MRI and Documentation, Case Management of Traumatic Spinal Injuries, *Understanding flexion-extension cervical injures and diagnosing connective tissue pathology. Determining impairments and the literature-based standard for permanent injuries.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Case Management, Spinal MRI and Documentation, Managing Herniated and Bulging Discs, Serious Injury in Non-Herniated Cases from Trauma, *Spinal disc morphology, and innervation. Herniated, bulged, protruded, and sequestered disc characteristics and management. Literature-based documentation requirements for no-dis spinal injuries.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Case Management, Spinal MRI and Documentation, Herniated Discs and Permanent Brain Malfunction & Biomechanical Failure, *A case-study of a post-traumatic herniated disc and related brain malfunction supported by contemporary literature, MRI acquisition, and necessity protocols.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Case Management, Spinal MRI and Documentation, Demonstrative Documentation of Disc Herniation and MRI Physics, *Understanding the documentation requirements to demonstratively show spinal disc lesions in reporting pathology. Understanding the physics of a nucleus resonating in T1 and T2 weighted imagery.* Cleveland University Kansas City, ACCME Joint

Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Case Management, Spinal MRI and Documentation, Post-Traumatic Herniated Discs, Related Migraines-Headaches & Strain/Sprain Permanences, *Relationship of headaches, and migraines to cervical spine disc herniation, clinical rationale for ordering MRI's and the relationship of ligamentous pathology to spinal trauma*. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Case Management, Spinal MRI and Documentation, Documentation of Low-Speed Crashes in Determining Etiology of Serious Bodily Injuries, *Documentation requirements during the evaluation, and management encounter to understand the etiology of spinal injuries. Having a complete understanding the forces involved to conclude a differential diagnosis, while concurrent ruling malingerers, if applicable*. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

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, Accreditation Council for Continued Medical Education in conjunction with The State University of New York at Buffalo, Jacobs School of Medicine and Biomedical Sciences, Cleveland University - Kansas City, Long Island, NY, 2021

Current Literature Standards of MRI Spine Interpretation; Primary Spine Care 5, *MRI Spine Interpretation of the spine. How to triage a trauma and non-trauma with advanced imaging and document the necessity. We will also cover the basics of MRI Spine Interpretation inclusive of all types of herniations, bulges*. Academy of Chiropractic Post-Doctoral Division, Accreditation Council for Continued Medical Education in conjunction with The State University of New York at Buffalo, Jacobs School of Medicine and Biomedical Sciences, Cleveland University - Kansas City, Long Island, NY, 2021

Spine Brain Connection in Pain Pathways; Primary Spine Care 5, *MRI Spine The spine-brain connection in managing chronic pain patients. Understanding how chronic pain negatively effects brain morphology and potential pathology as sequella. The role of chiropractic in preventing the loss of gray matter and the most recent evidence as outlined in indexed peer reviewed literature over the last 10 years verifying chiropractic's role*. Academy of Chiropractic Post-Doctoral Division, Accreditation Council for Continued Medical Education in conjunction with The State University of New York at Buffalo, Jacobs School of Medicine and Biomedical Sciences, Cleveland University - Kansas City, Long Island, NY, 2021

Bio-Neuro-Mechanical Mechanism of the Chiropractic Spinal Adjustment; *Primary Spine Care 5, The biological, neurological and mechanical mechanisms and pathways from the thrust to the*

dorsal horn and brain connection and how the brain processes the chiropractic spinal adjustment based upon the literature. Care paths of chiropractic and physical therapy from an outcome basis, Academy of Chiropractic Post-Doctoral Division. Academy of Chiropractic Post-Doctoral Division, Accreditation Council for Continued Medical Education in conjunction with The State University of New York at Buffalo, Jacobs School of Medicine and Biomedical Sciences, Cleveland University - Kansas City, Long Island, NY, 2021

Demonstrative Diagnosis and Documenting Spinal Pathology, Analyzing patient records, x-rays and MRI's in determining etiology of traumatically-induced pathological lesions. Clinically correlating the history, clinical findings, imaging findings and diagnosed bodily injuries to conclude and accurate diagnosis, prognosis, and treatment plan. Cleveland University - Kansas City, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2021

Demonstrative Diagnosis and Documenting Spinal Disc Injuries, Differentially diagnosing disc vs. posterior longitudinal ligaments vs. Thecal Sac vs. spinal cord vs. Ligamentum Flava pathology and insult. Identifying the borders of lesions and discerning between anatomic structures pathologically effected demonstrably. Cleveland University - Kansas City, Academy of Chiropractic, Post-Doctoral Division, Long Island, NY, 2021

MRI Spine Clinical Grand Rounds, *Interpretation sequencing of STIR, T1, T2, Axial and Sagittal acquisitions. Landmarks, physics, and literature-based definitions of disc and osseous pathology, Visualizing, diagnosing, and documenting cervical and lumbar anatomy vs. pathology.* Academy of Chiropractic Post-Doctoral Division, Accreditation Council for Continued Medical Education in conjunction with The State University of New York at Buffalo, Jacobs School of Medicine and Biomedical Sciences, Cleveland University - Kansas City, Long Island, NY, 2021

MRI Spine Clinical Grand Rounds, *Visualizing, diagnosing, and documenting lumbar spine sequencing, disc herniations, neural canals, cauda equina, conus medullaris, nerve sleeves, canal stenosis grading, and vertebral width vs. height in determining segmental remodeling. Diagnosing thecal sac abutment, central canal root compression and ligamentum flava involvement.* Academy of Chiropractic Post-Doctoral Division, Accreditation Council for Continued Medical Education in conjunction with The State University of New York at Buffalo, Jacobs School of Medicine and Biomedical Sciences, Cleveland University - Kansas City, Long Island, NY, 2021

MRI Spine Clinical Grand Rounds, *Case study visualizing, diagnosing, and documenting cervical spine sequencing, disc herniations, neural canals, cauda equina, conus medullaris, and vertebral width vs. height in determining segmental remodeling. Identifying the Pons, Occipital junction, and spinal cord to identify Chiari 1 malformations.* Academy of Chiropractic Post-Doctoral Division, Accreditation Council for Continued Medical Education in conjunction with The State University of New York at Buffalo, Jacobs School of Medicine and Biomedical Sciences, Cleveland University - Kansas City, Long Island, NY, 2021

MRI Spine Clinical Grand Rounds, *Visualizing, diagnosing, and documenting lumbar spine sequencing, disc extrusion type herniations, neural canals, cauda equina, conus medullaris, spondylolisthesis, degenerative spondylolisthesis, disc degeneration, neural canal and central*

root compressions, central canal stenosis. Varices vs. herniations, and multiple level disc pathology with biomechanical failures. Academy of Chiropractic Post-Doctoral Division, Accreditation Council for Continued Medical Education in conjunction with The State University of New York at Buffalo, Jacobs School of Medicine and Biomedical Sciences, Cleveland University - Kansas City, Long Island, NY, 2021

MRI Spine Clinical Grand Rounds, *Visualizing, diagnosing, and documenting cervical spine sequencing, disc extrusion type herniations, neural canals, disc degeneration, thecal sac compression, central canal stenosis, cord displacement, reversal of cervical curve, Chiari 1 malformation. Identifying spinal biomechanical failure in MRI sequencing, with visualizing ligamentous pathology as cause for failure. Differentially diagnosing recent vs. older trauma based upon edematous signal in T1, T2, and STIR images.* Academy of Chiropractic Post-Doctoral Division, Accreditation Council for Continued Medical Education in conjunction with The State University of New York at Buffalo, Jacobs School of Medicine and Biomedical Sciences, Cleveland University - Kansas City, Long Island, NY, 2021

MRI Spine Clinical Grand Rounds, *Visualizing, diagnosing, and documenting cervical spine sequencing, multiple disc extrusion type herniations, vertebral remodeling, intradural tumor displacing the spinal cord visualized in T1, T2, and STIR sequences, neural canal stenosis, disc degeneration, thecal sac compression, central canal stenosis, cord displacement, reversal of cervical curve, Chiari 1 malformation, and identifying of inferior brain structures.* Academy of Chiropractic Post-Doctoral Division, Accreditation Council for Continued Medical Education in conjunction with The State University of New York at Buffalo, Jacobs School of Medicine and Biomedical Sciences, Cleveland University - Kansas City, Long Island, NY, 2021

MRI Spine Clinical Grand Rounds, *Visualizing, diagnosing, and documenting 1) improper sequence acquisitions invalidating interpretation 2) incomplete study invalidating interpretation 3) visualizing, diagnosing, and documenting lumbar spine sequencing, multiple disc extrusion type herniations, vertebral remodeling, multiple thecal sac compressions, neural canal stenosis, disc osteophyte/ridging complex, central canal stenosis, spondylolisthesis. Identifying the spleen, liver, kidneys, inferior vena cava, and psoas musculature on imaging.* Academy of Chiropractic Post-Doctoral Division, Accreditation Council for Continued Medical Education in conjunction with The State University of New York at Buffalo, Jacobs School of Medicine and Biomedical Sciences, Cleveland University - Kansas City, Long Island, NY, 2021

MRI Spine Clinical Grand Rounds, *Visualizing, diagnosing, and documenting cervical spine sequencing, cervical spondylosis, pathological spinal biomechanics, reversal of lordotic curve, and vertebral width vs. height in determining segmental remodeling, central herniation, thecal sac compression of the cord, identifying tongue, epiglottis, hyoid cartilage, pharynx, thyroid. Reviewing fat saturation sequences for osseous metastatic tumors and advanced degeneration.* Academy of Chiropractic Post-Doctoral Division, Accreditation Council for Continued Medical Education in conjunction with The State University of New York at Buffalo, Jacobs School of Medicine and Biomedical Sciences, Cleveland University - Kansas City, Long Island, NY, 2021

MRI Spine Clinical Grand Rounds, *Visualizing, diagnosing, and documenting lumbar spine sequencing, degenerative disc disease, nerve root sleeve abutment, far lateral herniations vs.*

bulges, normal vs. dissected inferior vena cava aneurism, epidural fat as a space occupying lesion, facet arthropathy and edema, hypertrophy of ligamentum flava, and pseudo disc at the S1-S2 level. Academy of Chiropractic Post-Doctoral Division, Accreditation Council for Continued Medical Education in conjunction with The State University of New York at Buffalo, Jacobs School of Medicine and Biomedical Sciences, Cleveland University - Kansas City, Long Island, NY, 2021

MRI Spine Clinical Grand Rounds, Visualizing, diagnosing, and documenting cervical spine sequencing utilizing T1 weighted images for pathology, inclusive of advanced degeneration and tumor detection. STIR in a fat saturated image for ligamentous pathology inclusive of the posterior longitudinal, ligamentous flava and interspinal ligaments. Normal clivus and odontoid for cerebellar tonsil location. Cerebral spinal fluid (CSF) flow and the utilization of the spinal cord's central canal for CSF transport. Academy of Chiropractic Post-Doctoral Division, Accreditation Council for Continued Medical Education in conjunction with The State University of New York at Buffalo, Jacobs School of Medicine and Biomedical Sciences, Cleveland University - Kansas City, Long Island, NY, 2021

Collision Reconstruction & Biomechanical Engineering - Part 1, Analyzing the integration of collision reconstruction and spinal biomechanics utilizing a mathematical model. Understanding the model and transference of energy from the bullet car to the target car to the occupant to aberrant spinal biomechanics. Cleveland University Kansas City, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Collision Reconstruction & Biomechanical Engineering - Part 2, Understanding the mathematical models required to analyze a collision and create coefficients of forces transferred in a collision that effect the automobile and the occupant. Cleveland University Kansas City, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Collision Reconstruction & Biomechanical Engineering - Part 3, Calculation worksheets in the mathematical models required to analyze a collision and create coefficients of forces transferred in a collision that effect the automobile and the occupant. Cleveland University Kansas City, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Collision Reconstruction & Biomechanical Engineering - Part 4, An analysis of vehicle parts and construction design that contribute to the energy translated to the human body and spine inclusive of seatbelts, airbags, bumpers, event data recorders, tires, axles and auto frames. Cleveland University Kansas City, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Collision Reconstruction & Biomechanical Engineering - Part 5, When correlating crash to injury, inspecting the vehicle for evidence of damage to verify causality and extent of malformation of the vehicle beyond that of the outer shell of the vehicle. Cleveland University Kansas City, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Collision Reconstruction & Biomechanical Engineering - Part 6, Newton's laws of inertia and the determinant calculations required based upon the action of the vehicle and how spinal biomechanics are affected. Analysing the vehicle and accident site to reconstruct the actions of the car to create a model. Cleveland University Kansas City, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Collision Reconstruction & Biomechanical Engineering - Part 7, *Reconstructing and calculating minimal speed and velocity as injury and damage factors based upon skid marks considering coefficients of friction based upon various road surfaces*. Cleveland University Kansas City, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Collision Reconstruction & Biomechanical Engineering - Part 8, *Reconstructing and calculating speed and velocity as injury and damage factors based upon yaw marks considering coefficients of friction based upon various road surfaces*. Cleveland University Kansas City, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Collision Reconstruction & Biomechanical Engineering - Part 9, *Coefficients of momentum and calculating plastic vs. elastic deformation. Direction of forces as mathematical determinants of collision and resultant bodily injury forces*. Cleveland University Kansas City, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Collision Reconstruction & Biomechanical Engineering - Part 10, *Coefficients of acceleration, negative acceleration and G-forces in collisions that contribute to vehicular and bodily injuries. Analyzing time, speed and weight of bullet and target automobiles to reconstruct the energy of a collision and injury potential*. Cleveland University Kansas City, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Collision Reconstruction & Biomechanical Engineering - Part 11, *The osseous and ligamentous structures that are subject to pathology in bodily injury. The pathological reaction of connective tissue when it exceeds its parapsychological limits and the bio-neuro-mechanical changes the connective tissue undergoes as sequella to trauma*. Cleveland University Kansas City, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Collision Reconstruction & Biomechanical Engineering - Part 12, *Energy and momentum coefficients and data utilized as determinants and error ranges in calculations. Considering the stiffness of the vehicle, air bag function and formulation of timing in it's release point and injury potential to facial and spinal structures*. Cleveland University Kansas City, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Collision Reconstruction & Biomechanical Engineering - Part 13, *Mathematical worksheet reviewing kinetic and work energy, momentum, acceleration and G-forces in numerically quantifying a collision, the energy created to deform an automobile and the transference of forces creating connective tissue pathology and altered spinal biomechanics*. Cleveland University Kansas City, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Collision Reconstruction & Biomechanical Engineering - Part 14, *Analyzing a sample accident (case 1) utilizing all the vehicle, road surface combining standardized calculation variables in reconstructing an accident and the resultant energy considered for connective tissue pathology and resultant aberrant spinal biomechanics*. Cleveland University Kansas City, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Collision Reconstruction & Biomechanical Engineering - Part 15, *Analyzing a sample accident (case 2) utilizing all the vehicle, road surface combining standardized calculation variables in*

reconstructing an accident and the resultant energy considered for connective tissue pathology and resultant aberrant spinal biomechanics. Cleveland University Kansas City, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Collision Reconstruction & Biomechanical Engineering - Part 16, Analyzing a sample accident (case 3) utilizing all the vehicle, road surface combining standardized calculation variables in reconstructing an accident and the resultant energy considered for connective tissue pathology and resultant aberrant spinal biomechanics. Cleveland University Kansas City, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2021

Clinical Grand Rounds—Inter-professional Communication with the Personal Injury Attorney, Review of the outlined of the initial and re-evaluation E/M reporting in an injured patient. Discussion targeted compliant reporting and interprofessional communication with the attorney. Specific methods of ensuring compliant reporting were discussed and outlined. Statutory language, permanency determination and impairment were presented and reviewed in contact of the final narrative report. Emphasis was placed on the objectification of persistent functional loss and causal relationship in the personal injury patient. Supporting medical evidence of intervertebral disc pathology including disc herniation, disc bulge and annular tear was provided. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards, Buffalo, NY, 2021, 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, Buffalo, NY, 2021, 2021

Traffic Crash Investigation 1, an in-depth study of the skills needed to systematically investigate a traffic crash. Students learn techniques for obtaining information from witnesses and individuals involved in the crash, recognizing and properly recording roadway and vehicle evidence, measuring and photographing the crash scene, and creating sketches and after-crash diagrams. The course also introduces students to the use of electronic devices (EDR) to collect and record at-scene data. Northwestern University Center for Public Safety, Evanston, IL, 2021

Traffic Crash Investigation 2, develop skills in technically preparing crash investigation data and collecting follow-up data. Building upon topics examined in Crash 1, students delve further into the information available at a crash scene, how to properly collect it, and how to initiate its interpretation. Like Crash Investigation 1, the course is rooted in Baker and Fricke's Traffic Crash Investigation and emphasizes vehicle behavior in crashes, vehicle damage analysis, advanced measuring and mapping, properly downloading and preserving digital evidence from collision

investigations, examining road marks and tire damage, and more. Northwestern University Center for Public Safety, Evanston, IL, 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, Buffalo, NY, 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 Buffalo, NY, 2021

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, Buffalo, NY, 2021

Neurosurgical Grand Rounds, A clinical discussion of collaborating with neurosurgeons on spinal cord and spinal nerve root co-morbidities. Triaging cases with herniated, protruded, extruded, fragments discs and differentially diagnosing tethered cord, syringomyelia, traumatic Schmorl's Nodes, Myelomalacia, spinal cord edema, vacuum disc and other intra, and extra-dural lesions. National Spine Management Group, LLC, Federation of Chiropractic Licensing Boards, Buffalo, NY, 2021

Evaluation and Management, An overview of the evaluation and management process inclusive of utilizing electronic medical records to conclude evidenced-based conclusions with the utilization of macros. The importance of adhering to an academic standard and considering co-morbidities. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Evaluation and Management, Concluding a chief complaint, history and what needs to be considered in a physical examination. This covers in dept the required elements for chief complain, history of present illness, review of systems, and past, family, and/or social history.

This module also covers the following components of a physical examination: observation, palpation, percussion, and auscultation. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Evaluation and Management, Coding and Spinal Examination: *Detailing 99202-99205 and 99212-99215 inclusive of required elements for compliant billing. It reviews the elements for an extensive review of systems, cervical and lumbar anatomy and basic testing. The course also covers the basics of vertebra-basilar circulation orthopedic assessment.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Evaluation and Management, Neurological Evaluation: *Reviewing complete motor and sensory evaluation inclusive of reflex arcs with an explanation of Wexler Scales in both the upper and lower extremities. The course breaks down testing for upper and lower motor neuron lesions along with upper and lower extremity motor and sensory testing examinations.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Evaluation and Management, Documenting Visit Encounters: *Forensically detailing the S.O.A.P. note process for visit encounters and discussing the necessity for clinically correlating symptoms, clinical findings and diagnosis with the area(s) treated. It also details how to modify treatment plans, diagnosis, document collaborative care and introduce test findings between evaluations.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Evaluation and Management, Case Management and Treatment Orders: *This module discusses how to document a clinically determined treatment plan inclusive of both manual and adjunctive therapies. It discusses how to document both short-term and long-term goals as well as referring out for collaborative care and/or diagnostic testing. It also includes how to prognose your patient and determine when MMI (Maximum Medical Improvement) has been attained.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

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, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Chiropractic as the First Option for Spine, *A Literature-Based Standard, Utilizing clinical findings in conjunction with advanced imaging and electrodiagnostic findings in managing*

collaborative relationships with medical specialists. Applying a literature standard to care to ensure conservative care as the first option. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Chiropractic as the First Option for Spine, A Literature-Based Standard, Managing spinal related cases based upon MRI findings of herniations, bulges, protrusion, extrusions (comminuted and fragmented) utilizing thin-sliced acquisition protocols. When to consider ordering T1, T2, Short Tau Inversion Radiant, proton density and Dixon sequencing for spinal related pathology. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Chiropractic as the First Option for Spine, A Literature-Based Standard, Creating literature-based documentation inclusive of history and a clinical examination that encompasses causality, diagnosis, prognosis and treatment plans. Ensuring the whole person impairment ratings are consistent with contemporary literature. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Chiropractic as the First Option for Spine, A Literature-Based Standard, Spinal biomechanical engineering models related to pathobiomechanics and literature-based standards in creating an accurate diagnosis, prognosis, and treatment plan. Determining impairment ratings based upon alteration of motion segment integrity utilizing motion-imaging, and creating demonstrable evidence for continued treatment plans. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Trends in Spinal Healthcare, Analyzing spinal healthcare trends in both utilization and necessity and understanding the marketplace and how a level of clinical excellence is reflected in a doctors' documentation and credentials. Treatment pathways in triaging spinal pathobiomechanics. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

MRI Spine Interpretation, An evidence-based understanding of time-related etiology of disc pathology considering the American Society of Neuroradiology's designation of protrusion, extrusion, and sequestration of spinal discs, Considering the signal intensity of discs in age-dating pathology and acquisition protocols for advanced spinal imaging. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Spinal Biomechanics; A Literature Perspective, An evidenced-based model for spinal biomechanical engineering and pathobiomechanics considering the pathophysiological limits in translations, angular deviation, and rotational planes. Utilizing the Cartesian system in plotting

vertebral points to demonstratively conclude an accurate diagnosis, prognosis and biomechanical treatment plan with the consideration of long-term care in the non-specific mechanical spine pain patient when necessary. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Case Management of Mechanical Spine Pathology, Clinical Grand Rounds of herniated, protruded, extruded, sequestered, and bulging discs. Differentially diagnosing vascular vs. mechanical spinal lesions and the necessity for urgent vascular, neurological intervention, Collaborating in a team environment utilizing a neuroradiologist, electrophysiologist, and neurosurgeon with the chiropractor as the primary spine care provider. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Documentation in Medical Collaborative Cases, Concluding an E&M report in cases involving medical primary care providers of medical specialists that have complicated case histories, significant risk factors, and inconclusive findings. Triage and management of complicated cases requiring the clinical evaluation, advanced imaging and electrodiagnostics. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

MRI Spine Interpretation and Protocols, Contemporary acquisition protocols including slice thicknesses and sequences inclusive of the ordering process. Interpretation of axial, sagittal and coronal views in T1, T2 and stir views inclusive of the disc, spinal cord, extra-dural and intra-dural pathology. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Ethics and Medical Collaboration, Having referral relationships with emergency rooms, neurosurgeons, orthopedic surgeons, pain management specialists, neurologists, neuroradiologist and medical primary care providers based upon clinical dilemmas that processed after a thorough history, examination and imaging if clinically indicated to conclude diagnostic dilemmas. Utilizing evidence-based protocols and acquisition of images and treatment pathways, collaborating with medical specialists and primaries to conclude and accurate treatment plan. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Documentation in a Medical – Legal and Insurances, Constructing and concluding an E&M (99202-99205) report that accurately reflects the history, clinical findings and management of trauma cases that concurrently meets the needs of both the carriers in the courts and ethical relationship that concurrently matches the standards of both contemporary academia requirements and a contemporary literature-based standard. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of

Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

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 Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Orthopedic Testing: Cervical Spine, *Integration of cervical orthopedic testing in the clinical setting to develop a differential diagnosis. Utilizing radiographic and advanced imaging inclusive of MRI and CAT scan findings to verify tissue pathology suspected by orthopedic testing conclusions and developing a treatment plan as sequelae.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Orthopedic Testing: Cervical Spine, *Integration of cervical orthopedic testing in the clinical setting to develop a differential diagnosis. Utilizing radiographic and advanced imaging inclusive of MRI and CAT scan findings to verify tissue pathology suspected by orthopedic testing conclusions and developing a treatment plan as sequelae.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

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 Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Orthopedic Testing: Clinical Grand Rounds, how to integrate orthopedic testing in the clinical setting utilizing both simple and complex patient scenarios. It includes potential stroke, or vertebrobasilar insufficient patients and understanding the nuances in a clinical evaluation with orthopedic testing as a critical part of the evaluation and screening process. How to integrate orthopedic testing in the clinical setting utilizing both simple and complex patient scenarios. It includes potential stroke, or vertebrobasilar insufficient patients and understanding the nuances in a clinical evaluation with orthopedic testing as a critical part of the evaluation and screening process. Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Connective Tissue Spinal Disc Permanent Pathology, Primary Spine Care, Herniated, bulged, protruded and extruded discs, etiology and morphology. Age-dating disc pathology inclusive of Modic changes, piezoelectric effect, Wolff's Law and radicular clinical presentation. Academy of Chiropractic Post-Doctoral Division, Cleveland University – Kansas City, Long Island, NY 2020
Connective Tissue Pathology and Research, Primary Spine Care, Utilization in spinal models considering the opioid abuse and various spinal models in contemporary health care. Care paths for mechanical spine pain and the evidence for conservative chiropractic care. Academy of Chiropractic Post-Doctoral Division, Cleveland University – Kansas City, Long Island, NY 2020
Bio-Neuro-Mechanical Lesions and Spine Care, Primary Spine Care, Mechanoreceptor, proprioceptor, nociceptor innervation and control of the spinal system with central nervous system action and interaction. The integration of the pain processing network and the HPA Axis (hypothalamus, adrenal and pituitary) with the chiropractic spinal adjustment. Academy of Chiropractic Post-Doctoral Division, Cleveland University – Kansas City, Long Island, NY 2020

Ethics, Documentation and Research, Primary Spine Care, *Maintaining ethical Interprofessional relationships based upon an evidenced based practice inclusive of triage, diagnostics and reporting. Creating thorough documentation that reflects your complete findings encompassing descriptive ICD-10 codes and concludes the presence or absence of pathology.* Academy of Chiropractic Post-Doctoral Division, Cleveland University – Kansas City, Long Island, NY 2020

Pathobiomechanics and Documentation, *CPT Coding Guidelines for Initial and Established Patients with particular attention paid to Patient History, Review of Systems, Social and Family History, Physical Examination, and Medical Decision making. Specific differences in coding levels and required elements for a 99202-99203-99204-99205.* Cleveland University – Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Using Documentation and Ethical Relationships, *Pathways to improve coordination of care, and interprofessional communication with collaborating physicians. Maintaining ethical relationships in the medical-legal community through documentation and communication of demonstrable diagnosis, prognosis and treatment plans.* Cleveland University – Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Spinal Biomechanical Engineering Clinical Application, *History of clinical biomechanics with an emphasis on the diagnosis and management of spine pain of mechanical/functional origin. Evidence-based symptomatic vs. asymptomatic parameters using peer-reviewed medical index literature. Computerized mensuration analysis of spinal biomechanical pathology. Comparison of demonstrable spinal biomechanical failure on imaging to clinical evaluation and physical examination.* Cleveland University – Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Spinal Biomechanical Engineering Clinical Grand Rounds, *Case reviews utilizing E/M, MRI, and x-ray mensuration report to conclude an accurate diagnosis, prognosis, and treatment plan. Common diagnosis requiring interprofessional collaboration with a discussion of diagnostic dilemmas and proper communication methods.* Cleveland University – Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

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.* Cleveland University – Kansas City, Academy of Chiropractic, Setauket NY, 2020

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.* Cleveland University – Kansas City, Academy of Chiropractic, Setauket NY, 2020

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.* Cleveland University – Kansas City, Academy of Chiropractic, Setauket NY, 2020

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.* Cleveland University – Kansas City, Academy of Chiropractic, Setauket NY, 2020

Primary Spine Care - Credentials and Knowledge Base, *The credentials and knowledge based from an academia perspective when cooperatively treating in a collaborative environment inclusive of understanding pathology and mechanical spine issues.* Cleveland University – Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2020

Primary Spine Care - Spinal Biomechanical Engineering and MRI Spine Interpretation, *Integrating Spinal Biomechanical Engineering and MRI Spine Interpretation into a primary spine care model, inclusive of necessity and acquisition protocols. A comprehensive review the latest evidence in documenting mechanical issues.* Cleveland University – Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2020

Primary Spine Care - Hospital Administration, Triage, Clinical Requirements and Collaborative Relationships with Medical Specialists, *Understanding hospital and medical specialist's care paths for mechanical spine pathology and integrating the doctor of chiropractic in the hospital and allopathic treatment protocols.* Cleveland University – Kansas City, Long Island, NY, 2020

Primary Spine Care - Contemporary Spine Research and Documentation, *Central nervous system connection and the thalamus, hypothalamus connection in both ascending and descending central pathways with neuro-endocrine implications that have the mechanisms to be a component of Schizophrenia, Dementia and Alzheimer's with a linear relationship to the chiropractic spinal adjustment and chronic pain.* Cleveland University – Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2020

Diagnosing and Case Management, *The requirements for diagnosing based upon in an initial evaluation and management encounter ranging from a 99202 – 99205 that includes comorbidities, non-musculoskeletal, and sequellae to injury diagnosis.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 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.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Electrodiagnostics: Electromyogram/Nerve Conduction Velocity (EMG/NCV), Diagnosis & Interpretation: Anatomy and Physiology of Electrodiagnostics: *An in-depth review of basic neuroanatomy and physiology dermatomes and myotomes to both the upper and lower extremities and the neurophysiology of axons and dendrites along with the myelin and function of saltatory for conduction. The sodium and potassium pump's function in action potentials.* Cleveland University – Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Electrodiagnostics: Electromyogram/Nerve Conduction Velocity (EMG/NCV), Diagnosis & Interpretation: Nerve Conduction Velocity (NCV) Part 1: *Nerve conduction velocity testing, the equipment required and the specifics of motor and sensory testing. This section covers the motor and sensory NCV procedures and interpretation including latency, amplitude (CMAP) physiology and interpretation including the understanding of the various nuances of the wave forms.* Cleveland University – Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

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

conclusions. Cleveland University – Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Electrodiagnostics: Electromyogram/Nerve Conduction Velocity (EMG/NCV), Diagnosis & Interpretation: Needle Electromyogram (EMG) Studies: *The EMG process, inclusive of how the test is performed and the steps required in planning and electromyographic study. This covers the spontaneous activity of a motor unit action potential, positive sharp waves and fibrillations. The insertional activity (both normal and abnormal), recruitment activity in a broad polyphasic presentation and satellite potentials. This covers the diagnosing of patterns of motor unit abnormalities including neuropathic demyelinated neuropathies along with acute myopathic neuropathies. This section also covers the ruling out of false positive and false negative results.* Cleveland University – Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Electrodiagnostics: Electromyogram/Nerve Conduction Velocity (EMG/NCV), Diagnosis & Interpretation: Overview of EMG and NCV Procedures, Results, Diagnoses and Documentation. *The clinical incorporation of electrodiagnostic studies as part of a care plan where neuropathology is suspected. It also covers how to use electrodiagnostics in a collaborative environment between the chiropractor as the primary spine care provider and the surgeon, when clinically indicated. This section covers sample cases and health conclude and accurate treatment plans based upon electro-neurodiagnostic findings when clinically indicated.* Cleveland University – Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Stroke Anatomy and Physiology: Stroke Types and Blood Flow, *Various types of stroke identifying ischemia, hypoperfusion, infarct and penumbra zones and emboli. Cardiac etiologies and clinical features as precursor to stroke with associated paradoxical emboli and thrombotic etiologies. Historical and co-morbidities that have etiology instroke inclusive of diabetes, coagulopathy, acquired and hereditary deficiencies.* Cleveland University – Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

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 Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Clinical Evaluation and Protocols for Identifying Stroke Risk, The neurological history and examination for identifying stroke risks with a focus on supra and infratentorial regions, upper

and lower motor lesions, cranial nerve signs, spinal cord pathology, motor and sensory pathology and gait abnormalities. Examining genetic and family histories along with dissection risk factors. Stroke orthopedic testing and clinical guidelines pertaining to triage for the primary care provider. Cleveland University – Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Neurology of Ligament Pathology- Normal Morphology and Tissue Damage, *Connective tissue morphology, embryology and wound repair as sequelae to trauma. Full components of strain-sprain models and permanency implications with wound repair and osseous aberration with aberrant structural integrity.* Academy of Chiropractic, Post-Doctoral Division, Cleveland University-Kansas City, College of Chiropractic, Long Island, NY, 2020

Neurology of Ligament Pathology- Spinal Biomechanics and Disc Pathology, *Disc pathology as sequella to trauma; herniation, extrusion, protrusion, sequestration and how the spinal unit as one system creates homeostasis to balance the pathology.* Academy of Chiropractic, Post-Doctoral Division, Cleveland University-Kansas City, College of Chiropractic, Long Island, NY, 2020

Neurology of Ligament Pathology- Neurological Innervation, *The peripheral and central innervation of the disc and spinal ligaments of the dorsal root ganglion, spinal thalamic tracts, periaqueductal gray areas innervating the Thalamus and multiple regions of the brain. The efferent neurological distribution to disparate areas of the spine to create homeostatis until tetanus ensues creating osseous changes under the effect of Wolff's Law.* Academy of Chiropractic, Post-Doctoral Division, Cleveland University-Kansas City, College of Chiropractic, Long Island, NY, 2020

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 Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2020

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 Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2020

Spinal Trauma Pathology, Spinal Biomechanics, Central Nervous System and Spinal Disc Nomenclature, *The application of spinal biomechanical engineering models in trauma and the negative sequelae it has on the central nervous system inclusive of the lateral horn, periaqueductal grey matter, thalamus and cortices involvement.* Cleveland University – Kansas

City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2020

Spinal Trauma Pathology, Biomechanics of Traumatic Disc Bulge and Age Dating Herniated Disc Pathology, *The biomechanics of traumatic disc bulges as sequelae from trauma and the comorbidity of ligamentous pathology. Age-dating spinal disc pathology in accordance with Wolff's Law.* Cleveland University – Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2020

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 Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2020

Spinal Trauma Pathology, Research Perspectives, *The review of current literature standards in spinal trauma pathology and documentation review of biomechanical failure, ligamentous failure and age-dating disc pathology.* Cleveland University – Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, New York, 2020

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.* Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Mild Traumatic Brain Injury/Traumatic Brain Injury/Concussion, *Differentially diagnosing mild traumatic brain injury vs. traumatic brain injury and the clinical and imaging protocols required to conclude an accurate diagnosis for head trauma.* Cleveland University - Kansas City, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2020

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, 2020

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, 2020

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, 2020

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, 2020

Neurodiagnostics, Imaging Protocols and Pathology of the Trauma Patient, *An in-depth understanding of the protocols in triaging and reporting the clinical findings of the trauma patient. Maintaining ethical relationships with the medical-legal community.* Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Diagnostics, Risk Factors, Clinical Presentation and Triaging the Trauma Patient, *An extensive understanding of the injured with clinically coordinating the history, physical findings and when to integrate neurodiagnostics. An understanding on how to utilize emergency room records in creating an accurate diagnosis and the significance of "risk factors" in spinal injury.* Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Crash Dynamics and Its Relationship to Causality, *An extensive understanding of the physics involved in the transference of energy from the bullet car to the target car. This includes G's of force, newtons, gravity, energy, skid marks, crumple zones, spring factors, event data recorder and the graphing of the movement of the vehicle before, during and after the crash. Determining the clinical correlation of forces and bodily injury.* Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

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, ACCME Joint Providership with the State University of New York at Buffalo

Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Neurodiagnostic Testing Protocols, Physiology and Indications for the Trauma Patient, *Electromyography (EMG), Nerve Conduction Velocity (NCV), Somato Sensory Evoked Potential (SSEP), Visual Evoked Potential (VEP), Brain Stem Auditory Evoked Potential (BAER) and Visual-Electronystagmosgraphy (V-ENG) interpretation, protocols and clinical indications for the trauma patient.* Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

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, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Documenting Clinically Correlated Bodily Injury to Causality, *Understanding the necessity for accurate documentation, diagnosis and clinical correlation to the injury when reporting injuries in the medical-legal community. Documenting the kinesiopathology, myopathology, neuropathology, and pathophysiology in both a functional and structural paradigm.* Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2020

Specialty Research in Innervation and Blood Supply of the Intervertebral Disc, *Discussion of the distribution of nociceptive nerve fibers in the cervical intervertebral discs. Correlation of chronic neck pain patients and the relationship to nociceptive nerve fibers and discogenic neck pain. The role of nociceptive nerve fibers in the pathogenesis of neck pain of cervical disc origin was discussed and outlined.* ACCME Joint Sponsorship with the State University of New York at Buffalo, Jacobs School of Medicine, Buffalo, NY 2020

Specialty Research Rotation in Innervation and Blood Supply of the Intervertebral Disc, *Pathological mechanisms of discogenic low back pain including sensory nerve in growth into inner layers of the intervertebral disc, upregulation of neurotrophic factors and cytokines, and instability. Outline of the inhibition of these mechanisms and the treatment of discogenic low back pain. Understanding the innervation and instabilities of diseased intervertebral discs and the role of inflammatory mediators was compared with healthy intervertebral disc anatomy.* ACCME Joint Sponsorship with the State University of New York at Buffalo, Jacobs School of Medicine, Buffalo, NY, 2020

Specialty Research Rotation in Innervation and Blood Supply of the Intervertebral Disc, *Investigation of effects of inflammatory cytokines, IL-1b, and TNF-a, on the expression of an angiogenic factor, vascular endothelial growth factor (VEGF), and neurotrophic factors, nerve growth factor (NGF) and brain-derived neurotrophic factor (BDNF), in human IVD*

degeneration was presented. Outline of neurotrophins' role in the survival, growth, differentiation, and function of neurons inside and outside of the intervertebral disc. Further discussion was outlined relating to the process of IL-1B being generated during IVD degeneration and may stimulate the upregulation of VEGF, NGF, and BDNF expression, resulting in angiogenesis and nerve in-growth during intervertebral disc degeneration. ACCME Joint Sponsorship with the State University of New York at Buffalo, Jacobs School of Medicine, Buffalo, NY, 2020

Traumatic Brain Injury and Concussion Overview: This section is an in-depth overview of traumatic brain injury in concussion. It discusses that all brain injuries are traumatic and dispels the myth of a "mild traumatic brain injury." Also, this covers triage protocols and the potential sequela of patients with traumatic brain injuries. Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2019

Head Trauma and Traumatic Brain Injury Part 1: This section discusses gross traumatic brain injuries from trauma and significant bleeding with both epidural and subdural hematomas. There are numerous case studies reviewed inclusive of neurosurgical intervention and postsurgical outcomes. Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2019

Head Trauma and Traumatic Brain Injury Part 2: This section continues with multiple case studies of gross traumatic brain injuries from trauma requiring neurosurgical intervention and also discusses recovery sequela based upon the significance of brain trauma. This module also concludes with concussion protocols in traumatic brain injury short of demonstrable bleeding on advanced imaging. Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2019

Concussion And Electroencephalogram Testing: This this section covers concussion etiology and cognitive sequela where gross bleeding has not been identified on advanced imaging. It discusses the significance of electroencephalogram testing in determining brain function and pathology (if present). This module also covers the understanding of waveforms in electroencephalogram testing in both normal and abnormal scenarios. Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2019

Concussion And Electroencephalogram Testing Pathological Results: This module covers amplitude, conduction and conduction delays as sequela to traumatic brain injury to diagnose concussion and traumatic brain injury in the absence of gross bleeding and advanced imaging. This section covers electroencephalograms and event-related potentials which measures the brain response that is a direct result of specific sensory or motor events. It is a stereotypic electrophysiological response to a stimulus and provides a noninvasive means of evaluating

brain function. In this module multiple case studies are discussed with ensuing triage protocols pending the results. Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2019

MRI History and Physics, Magnetic fields, T1 and T2 relaxations, nuclear spins, phase encoding, spin echo, T1 and T2 contrast, magnetic properties of metals and the historical perspective of the creation of NMR and MRI. Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2017

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. Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2017

MRI Disc Pathology and Spinal Stenosis, MRI interpretation of bulged, herniated, protruded, extruded, sequestered and fragmented disc pathologies in etiology and neurological sequelae in relationship to the spinal cord and spinal nerve roots. Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2017

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. Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2017

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. Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2017

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. Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs

School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2017

MRI Protocols Clinical Necessity, *MRI slices, views, T1, T2, STIR axial, stacking, FFE, FSE and sagittal images. Clinical indication for the utilization of MRI and pathologies of disc in both trauma and non-trauma sequelae, including bulge, herniation, protrusion, extrusion and sequestration.* Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2017

MRI Interpretation of Lumbar Degeneration/Bulges, *MRI slices, views, T1, T2, STIR axial, stacking, FFE, FSE and sagittal images in the interpretation of lumbar degeneration. With the co-morbidities and complications of stenosis, pseudo-protrusions, cantilevered vertebrate, Schmorl's nodes and herniations. Central canal and cauda equina compromise interpretation with management.* Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2017

MRI Interpretation of Lumbar Herniations, *MRI slices, views, T1, T2, STIR axial, stacking, FFE, FSE and sagittal images in the interpretation of lumbar herniations. With the co-morbidities and complications of stenosis, pseudo-protrusions, cantilevered vertebrate, Schmorl's nodes and herniations. Morphology of lumbar disc pathologies of central and lateral herniations, protrusions, extrusions, sequestration, focal and broad based herniations are defined and illustrated. Central canal and cauda equina compromise interpretation with management.* Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2017

MRI Interpretation of Cervical Degeneration/Bulges, *MRI slices, views, T1, T2, STIR axial, stacking, FFE, FSE and sagittal images in the interpretation of cervical degeneration. With the co-morbidities and complications of stenosis, pseudo-protrusions, cantilevered vertebrate, Schmorl's nodes and herniations. Spinal cord and canal compromise interpretation with management.* Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2017

MRI Interpretation of Cervical Herniations, *MRI slices, views, T1, T2, STIR Axial, FFE, FSE and sagittal images in the interpretation of lumbar herniations. With the co-morbidities and complications of stenosis, pseudo-protrusions, cantilevered vertebrate, Schmorl's nodes and herniations. morphology of lumbar disc pathologies of central and lateral herniations, protrusions, extrusions, sequestration, focal and broad based herniations are defined and illustrated. Spinal cord and canal compromise interpretation with management.* Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2017

MRI Interpretation of Degenerative Spine and Disc Disease with Overlapping Traumatic Insult to Both Spine and Disc, *MRI slices, views, T1, T2, STIR Axial, FFE, FSE and sagittal images in the interpretation of degenerative spondylolesthesis, spinal canal stenosis, Modic type 3 changes, central herniations, extrusions, compressions, nerve root compressions, advanced spurring and thecal sac involvement from an orthopedic, emergency room, chiropractic, neurological, neurosurgical, physical medicine perspective.* Cleveland University - Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2017

Connective Tissue Spinal Disc Permanent Pathology, Primary Spine Care, *Herniated, bulged, protruded and extruded discs, etiology and morphology. Age-dating disc pathology inclusive of Modic changes, piezoelectric effect, Wolff's Law and radicular clinical presentation.* Academy of Chiropractic Post-Doctoral Division, Texas Chiropractic College, Long Island, NY, 2017

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

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

Ethics, Documentation and Research, Primary Spine Care, *Maintaining ethical Interprofessional relationships based upon an evidenced based practice inclusive of triage, diagnostics and reporting. Creating thorough documentation that reflects your complete findings encompassing descriptive ICD-10 codes and concludes the presence or absence of pathology.* Academy of Chiropractic Post-Doctoral Division, Texas Chiropractic College, Long Island, NY, 2017

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.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2016

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 Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2016

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 Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2016

Spinal Biomechanics in Trauma, *To utilize whiplash associated disorders in various vectors of impact and whiplash mechanisms in determining pathobiomechanics. To clinically correlate annular tears, disc herniations, fractures, ligament pathology and spinal segmental instability as sequellae to pathobiomechanics from trauma. The utilization of digital motion x-ray in diagnosing normal versus abnormal facet motion along with case studies to understand the clinical application.* Cleveland University Kansas City, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2016

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 Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2016

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 Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2016

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 Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2016

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 Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2016

Treating Trauma with Chinese Medicine, *Traditional Chinese medicine approach to blood stagnation and pain relief.* Connecticut Society of Acupuncture and Oriental Medicine, Hartford, CT, 2013

MRI Essentials for the Spine Specialist: Cervical and Lumbar MRI, *Principles and techniques as an essential part of MR imaging.* North American Spine Society, Chicago, IL, 2013

Documentation and Triage in Trauma, *ICD-9 and CPT requirements in coding for the traumatically injured including integrating electronic health records including informed consent, evaluation and management, testing orders. The utilization of research in medical reports for both the trauma and non-trauma patients. Clinical coordination of care and reporting to healthcare and legal providers.* Federation of Chiropractic Licensure Boards, Academy of Chiropractic, American Academy of Medical-Legal Professionals, Hollywood, FL, 2012

Whiplash Injury Biomechanics & Traumatology, *Biomechanical forces of acceleration resulting in connective tissue injury.* Spine Research Institute of San Diego, Baltimore, MD, 2010

Whiplash and Brain Injury Traumatology, *Traumatically induced concussion secondary to motor vehicle collisions. axonal shear and coup contre coup related to vector of forces.* Spine Research Institute of San Diego., Baltimore, MD, 2009

New Era in Whiplash & Spinal Trauma, *Diagnosis and management of whiplash-type injuries. Examination and diagnostic testing algorithms.* Spine Research Institute of San Diego., Baltimore, MD, 2009

Interpreting Spine MR's and CT's, *Differential diagnosis and when to an MRI as compared to a CT scan..* Naugatuck Valley Radiological Associates, Waterbury, CT, 2009

Rehab Made Practical, *Core stabilization exercises and low back function.* University of Bridgeport College of Chiropractic, Hartford, CT, 2007

Advanced Clinical Training in Biomechanics and Orthotics, *Biomechanics of the gait cycle. The role orthotics play in pes planus*. New York Chiropractic College, New York, NY, 2006

Vertigo, *Mechanoreceptor and proprioception mismatching visual and vestibular input resulting in vertigo*. Carrick Institute for Graduate Studies, Boston, MA, 2003

Whiplash The Masters' Program, *Advanced Diagnostics & Treatment Auto Crash Injuries*. Diplomate, Motion Palpation Institute, Spine Research Institute of San Diego., New York, NY, 1999

Seminar for Radiology QA, UR, Tech Assessment, Diplomate, University of Bridgeport, College of Chiropractic, Jefferson Medical College of Thomas Jefferson University, New Haven, CT, 1999

Comprehensive Physicians Training Course, *The Procedure and Diagnostic Interpretation of the Selected Current Perception Threshold*. Neutron, Baltimore, MD, 1999

New Management Strategies for Patients with Low Back & Sciatica, *Diagnosis procedures and management of herniated lumbar discs*. Harvard Medical School, Boston, Mass, 1995

SCHOLARLY PRESENTATIONS

Motor Vehicle Accidents and Chiropractic PowerPoint presented at the St. Mary's Hospital Executive committee, (2016, May).

Chiropractic Medicine and Acupuncture PowerPoint presented at the Department of Internal Medicine, St. Mary's Hospital, (2016, October).

Alar Ligament Sub -failure from Cervical Trauma PowerPoint presented at the St. Mary's Hospital Emergency room physicians, (2014, September).

Alar Ligament Sub -failure from Cervical Trauma PowerPoint presented at the Naugatuck Valley Radiology, (2014, November).

Whiplash the Epidemic PowerPoint presented at the St. Mary's Hospital Emergency room physicians, Waterbury, CT, (2013, April).

Benefits of Chiropractic care Lecture presented at the St. Mary's Hospital Emergency room physicians, (2008, May).

OptiGate and OptiJump, *Gait analysis in human locomotion utilizing instrumentation for measuring body movements, body mechanics and the activity of muscles* Certification in Certification in OptiGate and OptiJump, College of Chiropractic, Microgate USA, University of Bridgeport, Bridgeport, CT, 2020

Biomechanics and Physiology of Human Performance in Trauma and Sports, *Biomechanics of the human body and it's interrelationship to the spine and human performance. Objectifying sequella of trauma, proper and improper training and outcome assessments in neuro-musculoskeletal care*. Diplomate, College of Chiropractic, University of Bridgeport, Bridgeport, Connecticut, 2012

New Strategies for Managing Spinal Injuries PowerPoint presented at the Webster Insurance Co, (2006, May).

SELECTED TEACHING/INSTRUCTING/LECTURING/CONSULTING

Adjunct Assistant Professor of Clinical Sciences, Cleveland University-Kansas City, College of Chiropractic, 2024-

Adjunct Assistant Professor of Clinical Services, Clinical Supervision, University of Bridgeport, College of Chiropractic, Bridgeport, Connecticut, 1997 - Present

Professor of Orthopedics, Clinical Orthopedics, University of Bridgeport, College of Chiropractic, Bridgeport, Connecticut, 1992 - 1996

Instructor, Rehabilitation of the Spine, New York Chiropractic College, Hartford, Connecticut, 1989 - 1990

Instructor, Motion palpation of the spine and extremities, Motion Palpation Institute, New York, New York, 1983 – 1990

SELECTED PUBLICATIONS

Peter Zilahy DC, Mark Studin DC, John Strom DC, Geoffrey Gerow DC. “Dorsal Root Ganglion Injury Secondary to Rapid Hydraulic Pressure Changes Secondary to a Low-Impact Rear-End Motor Vehicle Crash – A Case Study” Originally published on MedPix (National Institute of Health/National Library of Medicine). 2024. Currently in platform transition to BMJ Case Reports.

Peter Zilahy DC, Mark Studin DC, Randall Loftus MD, Jennifer Sperrazza DC, Geoffrey Gerow DC. “AVM Cervical Spinal Cord Bleed From A Front-End Motor Vehicle Crash: A Case Study.” Originally published on MedPix (National Institute of Health/National Library of Medicine). 2024. Currently in platform transition to BMJ Case Reports.

Peter M. Zilahy DC, Mark Studin DC, Randall Loftus MD, Jennifer Sperrazza DC, Geoffrey Gerow DC. “Right Paracentral Positioned Cervical Disc Herniation, Due To A Rear-End Motor Vehicle Crash, Producing Myelopathy To The Side And Site Of Herniation: A Case Study”. Originally published on MedPix (National Institute of Health/National Library of Medicine). 2024. Currently in platform transition to BMJ Case Reports.

Zilahy, P. (2022). CASE REPORT: Long-term chiropractic maintenance patient presents with back pain from metastatic cancer. Zilahy, P. (2022). CASE REPORT: Chiropractic management of posterior shoulder capsule tear.

SELECTED MEMBERSHIPS

Acupuncture and Oriental Medicine Alliance, Member, 2001 – 2015

The Educational Center for Integrative Healing and Wellness, Member, 1999 – 2015

Physical Medicine & Research, Member, 1988 – 1999

American Back Society, Fellow, 1988 - 1992

American Academy of Chiropractic Orthopedics, Fellow, 1983 – 1995

International Association for the Study of Pain, Member, 1982 - 1993

Greater Waterbury Chamber of Commerce, Board of Director, 1977 – Present

Connecticut Chiropractic Association, Chairman of the Board, President, District Director, Education Committee Chairman, Interprofessional Relations Committee Chairman, 1976 – Present

SELECTED HONORS AND AWARDS

Academy of Chiropractic Clinical Excellence Award 2023

Best Alternative Health Center, Waterbury Observer, 2009, 2010, 2011, 2012, 2013, 2014, 2015

Best of Watertown Award in the Chiropractors Category, U.S. Commerce Association (USCA)., 2009

Chiropractor of the Year, Connecticut Chiropractic Association, 1984

Outstanding Young Man of America, Junior Chamber of Commerce, 1983

Pi Tau Delta, International Chiropractic Honor Society, 1976

Beta, Beta, Beta, Rutgers University, Biological Honor Society, 1973

SELECTED COMMUNITY SERVICE

Rotary Club International, Watertown, Connecticut, 1980 – 1990

Jaycees, Waterbury, Connecticut, 1976 - 1979

Independent Medical Examiner, Exam Coordinators Network, Watertown, CT, 2003

Adjunct Assistant Professor of Clinical Sciences, Cleveland University-Kansas City, College of Chiropractic, 2024-