

CURRICULUM VITAE
Mark E. Loftis, DC, FSBT(c)

License #4152 (Oklahoma Board of Chiropractic Examiners)

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PERSONAL

Date of Birth June 12, 1987
Place of Birth Tulsa, OK
Citizenship USA

WORK EXPERIENCE

2015 – Present Private Practice of Chiropractic, OK

EDUCATION AND INTERNSHIP

2014.	DC, Doctor of Chiropractic. BSc, Health & Human Anatomy Parker University Dallas, TX
2013 – 2014	Intern, Chiropractic Parker University Wellness Clinics Dallas, TX
2012 – 2013	Parts I-IV National Board of Chiropractic Examiners
2005 – 2009	Pre-Chiropractic Medicine Oklahoma State University Stillwater, OK

FELLOWSHIP CANDIDATE

2024 - Present. FSBT®, Spinal Biomechanics & Trauma
This is a 2-year community-based clinical fellowship program that focuses on advanced diagnosis and comprehensive management of acute and chronic spine disease. Includes in-person clinical rotations in: MRI physics, orthopedic spine, neuroradiology, pain management, neurosurgery, emergency department and internal medicine. Includes an

advanced postgraduate certificate in spine neuroradiology taught by board-certified neuroradiologists. The program is patterned after a medical residency/fellowship. Program directors are neurosurgeon, Dr. John Edwards and spine management physician, Dr. William Owens.

CERTIFICATIONS AND ADDED QUALIFICATIONS

- 06/29/2024. Stroke Anatomy & Evaluation for Chiropractors and Manual Medicine Specialists – PACE approved by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences
- 2024. Certification in Manipulation Under Anesthesia (MUA)/Medication-Assisted Manipulation (MAM). Cornerstone Professional Education, Inc. – Monroe, NC
- 05/07/2023. Injectable Certified Chiropractic Physician (I.C.C.P.) - #615. Oklahoma Board of Chiropractic Examiners – Oklahoma City, OK
- 11/17/2013. Dry Needling Certified Practitioner. Oklahoma Board of Chiropractic Examiners – Oklahoma City, OK
- 08/22/2022. Spinal Biomechanical Engineering - PACE approved by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences
- 07/25/2018. MRI Credentialing (Spine) - PACE approved by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences

POSTGRADUATE TRAINING

Stroke Anatomy and Physiology: Brain Vascular Anatomy, *The anatomy and physiology of the brain and how blood perfusion effects brain function. A detailed analysis of the blood supply to the brain and the physiology of ischemia.* ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Buffalo, NY, 2024

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.* ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Buffalo, NY, 2024

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. ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Buffalo, NY, 2024

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. ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Buffalo, NY, 2024

Triage and Compliance, Documentation and Diagnosing, Creating care paths using clinical examination and advanced diagnostics to formulate care paths including collaborative care. Documenting and diagnosing spinal biomechanical lesions, disc pathology from MRI including, but limited to herniations, bulges, extrusions, sequestrations and non-disc spinal lesions from varices and neoplastic space occupying lesions. Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2023

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, 2022

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, 2022

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, 2022

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, 2022

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, 2022

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, 2022

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, 2022

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, 2022

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, 2022

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 spondylolisthesis, 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.* PACE approved by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2018

MRI Interpretation of Cervical Herniations, *MRI slices, views, T1, T2, STIR Axial, FFE, FSE and sagittal images in the interpretation of lumbar herniations. With the co-morbidities and complications of stenosis, pseudo-protrusions, cantilevered vertebrate, Schmorl's nodes and herniations. morphology of lumbar disc pathologies of central and lateral herniations, protrusions, extrusions, sequestration, focal and broad based herniations are defined and illustrated. Spinal cord and canal compromise interpretation with management.* PACE approved by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2018

MRI Interpretation of Cervical Degeneration/Bulges, *MRI slices, views, T1, T2, STIR axial, stacking, FFE, FSE and sagittal images in the interpretation of cervical degeneration. With the co-morbidities and complications of stenosis, pseudo-protrusions, cantilevered vertebrate, Schmorl's nodes and herniations. Spinal cord and canal compromise interpretation with management.* PACE approved by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2018

MRI Interpretation of Lumbar Herniations, *MRI slices, views, T1, T2, STIR axial, stacking, FFE, FSE and sagittal images in the interpretation of lumbar herniations. With the co-morbidities and complications of stenosis, pseudo-protrusions, cantilevered vertebrate, Schmorl's nodes and herniations. Morphology of lumbar disc pathologies of central and lateral herniations, protrusions, extrusions, sequestration, focal and broad based herniations are defined and illustrated. Central canal and cauda equina compromise interpretation with management.* PACE approved by The Federation of Chiropractic Licensing Boards, ACCME Joint

Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2018

MRI Interpretation of Lumbar Degeneration/Bulges, *MRI slices, views, T1, T2, STIR axial, stacking, FFE, FSE and sagittal images in the interpretation of lumbar degeneration. With the co-morbidities and complications of stenosis, pseudo-protrusions, cantilevered vertebrate, Schmorl's nodes and herniations. Central canal and cauda equina compromise interpretation with management.* PACE approved by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2018

MRI Protocols Clinical Necessity, *MRI slices, views, T1, T2, STIR axial, stacking, FFE, FSE and sagittal images. Clinical indication for the utilization of MRI and pathologies of disc in both trauma and non-trauma sequelae, including bulge, herniation, protrusion, extrusion and sequestration.* PACE approved by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2018

MRI Clinical Application, *The clinical application of the results of space occupying lesions. Disc and tumor pathologies and the clinical indications of manual and adjustive therapies in the patient with spinal nerve root and spinal cord insult as sequelae.* PACE approved by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2018

MRI Methodology of Analysis, *MRI interpretation sequencing of the cervical, thoracic and lumbar spine inclusive of T1, T2, STIR and 3D gradient studies to ensure the accurate diagnosis of the region visualized.* PACE approved by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2018

MRI Spinal Pathology, *MRI interpretation of bone, intradural, extradural, cord and neural sleeve lesions. Tuberculosis, drop lesions, metastasis, ependymoma, schwannoma and numerous other spinal related tumors and lesions.* PACE approved by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2018

MRI Disc Pathology and Spinal Stenosis, *MRI interpretation of bulged, herniated, protruded, extruded, sequestered and fragmented disc pathologies in etiology and neurological sequelae in relationship to the spinal cord and spinal nerve roots.* PACE approved by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2018

MRI Spinal Anatomy and Protocols, *Normal anatomy of axial and sagittal views utilizing T1, T2, 3D gradient and STIR sequences of imaging. Standardized and desired protocols in views and sequencing of MRI examination to create an accurate diagnosis in MRI.* PACE approved by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2018

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.* PACE approved by The Federation of Chiropractic Licensing Boards, ACCME Joint Providership with the State University of New York at Buffalo Jacobs School of Medicine and Biomedical Sciences, Academy of Chiropractic Post-Doctoral Division, Buffalo, NY, 2018

Certificate in Testing and Interpretation of the DynaROM device, *the latest in FDA cleared, Class II Diagnostic Equipment and recognized as "The Gold Standard" by being featured in the AMA's Medical Textbook "The Practical Guide to Range of Motion Assessment", the companion to the AMA Guides for disability evaluation. It is the first U.S. Patented (#9,808,172) soft-tissue-injury diagnostic system that measures range of motion and muscle activity simultaneously.* Precision Biometrics, Inc., Seattle, WA, 2017

Neurodiagnostics, Imaging Protocols and Pathology of the Trauma Patient, *an in-depth understanding of the protocols in triaging and reporting the clinical findings of the trauma patient. Maintaining ethical relationships with the medical-legal community.* Texas Chiropractic College, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2017

Diagnostics, Risk Factors, Clinical Presentation and Triaging the Trauma Patient, *an extensive understanding of the injured with clinically coordinating the history, physical findings and when to integrate neurodiagnostics. An understanding on how to utilize emergency room records in creating an accurate diagnosis and the significance of "risk factors" in spinal injury.* Texas Chiropractic College, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2017

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, newton's second law, gravity, energy, skid marks, crumple zones, spring factors, event data recorder and the graphing of the movement of the vehicle before, during and after the crash. Determining the clinical correlation of forces and bodily injury.* Texas Chiropractic College, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2017

MRI, Bone Scan and X-Ray Protocols, Physiology and Indications for the Trauma Patient, *MRI interpretation, physiology, history and clinical indications, bone scan interpretation, physiology and clinical indications, x-ray clinical indications for the trauma patient.* Texas Chiropractic College, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2017

Neurodiagnostic Testing Protocols, Physiology and Indications for the Trauma Patient, *Electromyography (EMG), Nerve Conduction Velocity (NCV), Somatosensory Evoked*

Potential (SSEP), Visual Evoked Potential (VEP), Brainstem Auditory Evoked Potential (BAER) and Visual-Electronystagmography (V-ENG) interpretation, protocols and clinical indications for the trauma patient. Texas Chiropractic College, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2017

Documentation and Reporting for the Trauma Victim, *Understanding the necessity for accurate documentation and diagnosis utilizing the ICD-10 and the CPT to accurately describe the injury through diagnosis. Understanding and utilizing state regulations on reimbursement issues pertaining to healthcare.* Texas Chiropractic College, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2017

Documenting Clinically Correlated Bodily Injury to Causality, *Understanding the necessity for accurate documentation, diagnosis and clinical correlation to the injury when reporting injuries in the medical-legal community. Documenting the kinesio pathology, myopathology, neuropathology, and pathophysiology in both a functional and structural paradigm.* Texas Chiropractic College, Academy of Chiropractic Post-Doctoral Division, Long Island, NY, 2017

OTHER

- 2024. Elected member of the board of directors at Pure Heart Vision, a 501c3 Non-Profit organization
- 2024. Completed a graduate-level Certificate in Ministry from Lipscomb University

PROFESSIONAL MEMBERSHIPS (PAST AND PRESENT)

- National Spine Management Group
- Chiropractic Physicians of Oklahoma
- American Chiropractic Association

REFERENCES: Furnished upon request.