Thomas Basile DC
5610 Kitsap Way Suite 260
Bremerton, WA 98312
Phone: (360)478-2100
FAX: (844)269-6880
drthomasbasile@gmail.com

SELECTED OCCUPATIONAL HISTORY

Clinical Director, Provider, Owner, Health By Design Wellness Center, Bremerton, WA, 2008 - Present

Clinical Director, Provider, Owner, Advanced Spinal Rehabilitation, Bremerton, WA, 2004 - 2008

Clinical Director, Provider, Owner, Advanced Spinal Rehabilitation, Silverdale, WA, 1999 - 2004

Clinical Director, Provider, Owner, Vashon Family Chiropractic, Vashon, WA, 1996 - 2018

Clinical Director, Provider, Owner, Springfield Chiropractic Life Center, Springfield, VA, 1987 - 1996

Associate Doctor of Chiropractic, Mattia Chiropractic Life Center, Verona, NJ, 1986 - 1987

EDUCATION AND LICENSURE

Doctor of Chiropractic, Licensed in the State of WA, Licence number Chiro.Ch.00003266, 1995 - Present

Doctor of Chiropractic, Licensed in the State of VA, 1987 - 1996

Doctor of Chiropractic, Licensed in the State of NJ, 1987 - 1988

Doctor of Chiropractic, Licensed in the State of CO, 1987 - 1988

National Board of Chiropractic Examiners, Part 1, 1986

National Board of Chiropractic Examiners, Part 2, 1986

Doctor of Chiropractic degree, Life University (Formerly Life Chiropractic College), 1986

Internship, Life University (Formerly Life Chiropractic College), 1985 - 1986

Kean University (Formerly Kean College of NJ), Undergrad studies in biology, chemistry, and physics, 1980 - 1983

William Patterson College of NJ, General studies, 1979

SELECTED POST-GRADUATE EDUCATION

Clinical Grand Rounds: Personal Injury Case Management – Tissue Injury Identification, Clinical Correlation, and Diagnostic Documentation – Participated in Clinical Grand Rounds reviewing a structured approach to personal injury case management based upon identification of injured tissues and correlation of clinical findings with the mechanism of injury. Instruction emphasized differentiation of ligamentous, discal, muscular, and osseous injuries; correlation of patient history and physical examination findings with suspected pathology; and appropriate utilization of radiography, MRI, dynamic imaging, and specialized diagnostic testing. Discussion included development of clinically defensible documentation, recognition of injury patterns, assessment of prior conditions and gaps in care, and integration of objective findings into treatment planning and medicolegal case management. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, 2026.*

Clinical Grand Rounds: Personal Injury Litigation, Documentation, and the Role of the Treating Spine Provider – Participated in Clinical Grand Rounds examining the clinical and legal progression of personal injury cases from initial injury and pre-litigation care through discovery, deposition, and courtroom testimony. Instruction emphasized differences between No-Fault and tort systems, serious injury thresholds, the importance of early and consistent clinical documentation, and the impact of record inconsistencies on case credibility. Discussion reviewed the role of treating providers and expert witnesses, preparation for deposition and direct examination, correlation of clinical findings with causation and functional loss, and the importance of defensible medical records in supporting effective communication among healthcare providers, attorneys, insurers, and the courts. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, 2026.*

Communicating Chiropractic Science – CS1.01. Chiros Academy, Clinical Science Level 1, Class1. Continuing Education Course covering the communication and interpretation of chiropractic science, clinical versus basic science, scientific research methodology, clinical research and health outcomes, and the effects of stress on health and neuroplasticity. *Haavik, Heidi, Ph.D., BSc (Chiro), Vice President of Research and Dean of Research New Zealand College of Chiropractic, Director of* Haavik Research*, Adjunct Professor University of Ontario Institute of Technology. 2026.*

The Many Models of the Chiropractic Subluxation — BS1.01. Chiros Academy, Basic Science Level 1, Class 1. – Topics included chiropractic subluxation models, science and research, basic and clinical science, neuroscience, brain and central nervous system function, neural plasticity, sensorimotor integration, the MOPI model, and patient-focused evidence-informed chiropractic care. *Haavik, Heidi, Ph.D., BSc (Chiro), Vice President of Research and Dean of Research New Zealand College of Chiropractic, Director of Haavik Research, Adjunct Professor University of Ontario Institute of Technology. 2026.*

Clinical Grand Rounds: Independent MRI Interpretation and the Clinical Implications of Variable Radiology Nomenclature – Participated in Clinical Grand Rounds examining the clinical significance of incomplete adoption of standardized lumbar disc nomenclature and its implications for physicians responsible for spine management. Instruction emphasized the importance of correlating MRI findings with patient history, physical examination, and independent image review rather than relying exclusively on radiology report

terminology. Discussion included contemporary lumbar disc classification, recognition of preferred versus legacy reporting terminology, communication between radiologists and treating providers, implications for surgical consultation and medicolegal case management, and the role of continuing education in promoting consistent evidence-based spinal imaging interpretation. Additional emphasis was placed on the value of standardized reporting in improving diagnostic accuracy, reducing ambiguity, and facilitating interdisciplinary communication across spine care specialties. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, 2026.*

Uncovering Hidden Instability: Diagnosing and Addressing Upper Cervical Instability and Alar Ligament Tears – This seminar addressed the identification and conservative management of upper cervical instability, with emphasis on alar ligament injury following whiplash and other trauma. The first part reviewed the functional anatomy of the craniocervical junction, including the greater, lesser and third occipital nerves, the suboccipital muscles, the transverse, alar and accessory atlantoaxial ligaments, coupled motion of the cervical spine, and the myodural bridge complex. Particular attention was given to research showing that the alar ligament fails at 6–8% stretch, is weaker than the transverse ligament, and is most vulnerable when the head is rotated at the time of injury.

The second part covered examination and diagnosis. Participants practiced a physical exam sign of alar ligament damage, head rotation at maximal cervical extension, and learned to take and analyze APOM lateral bending and lateral flexion-extension radiographs. Instruction included x-ray positioning technique, assessment of the para-odontoid space and C2 spinous rotation, and basic lateral cervical mensuration using Jackson's lines, forward head posture and the skull base to atlas plane. Differential diagnosis covered dermatomal versus referred pain, C2–C3 facet pain referral and facet-induced radiculopathy, along with MRI findings and the tendency of alar ligament injuries to become chronic. The seminar concluded with non-surgical management, including restoration of cervical lordosis and hands-on instruction in isometric cervical flexor and rectus capitis posterior major exercises, all supported by peer-reviewed literature. *Chris Cohen, DC, DACNBP, a board-certified functional neurologist, Diplomate from the American Chiropractic Neurology Board (2017) and a certification in Whiplash and Brain Injury Traumatology (2018). Washington State Department of Labor & Industries Consultant Examiner and practicing chiropractic physician, Backbone Chiropractic, Gig Harbor, WA. 2026.*

A Pain in the Neck – Covered the evaluation and management of common cervical spine pathologies, including cervical facet arthropathy, cervical radiculopathy, occipital neuralgia, and alar ligament injuries. The presentation detailed pain referral patterns, clinical features, diagnostic imaging (such as 3T MRI, coronal, and axial views), and interventional pain management procedures, including medial branch blocks (MBB), radiofrequency ablation (RFA), epidural steroid injections, and occipital nerve blocks (ONB). Additionally, conservative and surgical treatment options were discussed, including medications (gabapentin, opioids, Botox), cervical collars, gentle physical therapy, posterior cervical fusion, and platelet-rich plasma (PRP) therapy, along with a case report on unilateral isolated alar ligament rupture. *Presented live in person by Cecilia Chen, MD, PhD (Anesthesia & Interventional Pain, Valley Pain Service, Federal Way, WA).*

Clinical Grand Rounds: Adoption of ASSR, ASNR, and NASS Version 2.0 Lumbar Disc Nomenclature in Contemporary MRI Reporting – Participated in Clinical Grand Rounds reviewing the 2024 investigation by Martín-Noguerol et al. evaluating radiologist adoption of the ASSR, ASNR, and NASS Version 2.0 lumbar disc nomenclature using natural language processing (NLP). Discussion emphasized the rationale for standardized lumbar spine terminology, departmental adherence to consensus recommendations, variability in terminology

among experienced radiologists, and the impact of inconsistent nomenclature on interdisciplinary communication, clinical decision-making, research standardization, and medicolegal documentation. Additional review examined the application of NLP as a quality improvement tool for objectively assessing reporting practices and identifying opportunities for continuing professional education and performance improvement. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, 2026.*

Causal Inference in Forensic Medicine: Principles, Scientific Methodology, and Medicolegal Decision Making – Participated in an advanced educational review of the scientific principles of causal inference in forensic medicine with emphasis on the distinction between clinical diagnosis and medicolegal causation analysis. Instruction examined the application of scientific reasoning to determine causal relationships between an alleged exposure and a subsequent injury or disease, the limitations of direct observation of causation, and the role of inductive inference in forensic medical investigations. Additional discussion addressed evidence-based approaches to causal analysis, reproducibility of expert methodology, current limitations in forensic causal frameworks, and the importance of applying objective scientific principles when developing defensible medicolegal opinions. *National Spine Management Group, Expert Review Alliance, 2026.*

General Causation, Specific Causation, and Group-to-Individual (G2i) Inference in Forensic Medical Analysis – Participated in an advanced educational review of the scientific framework used to evaluate general and specific causation within forensic medicine. Instruction examined the distinction between determining whether an exposure is capable of producing an injury in a population versus whether that exposure caused injury in an individual patient. Discussion included epidemiologic evidence, biological plausibility, group-to-individual (G2i) inference, risk estimation, confounding variables, individual susceptibility, and the appropriate application of published medical literature in medicolegal investigations. Emphasis was placed on integrating population-based scientific evidence into individualized causation opinions while recognizing the assumptions and limitations inherent in causal attribution. *National Spine Management Group, Expert Review Alliance, 2026.*

Bayesian Reasoning, Probability of Causation, and the Development of Defensible Forensic Medical Opinions – Participated in an advanced educational review of Bayesian reasoning and the Probability of Causation (PC) model as applied to forensic medical evaluations. Instruction examined probabilistic reasoning, the integration of prior knowledge with newly acquired evidence, and application of the "But-For Test" in determining factual causation. Additional discussion addressed transparency in expert methodology, documentation of assumptions, avoidance of unsupported conclusory opinions, communication of causation on a balance of medical probability, and the characteristics of scientifically reliable expert testimony. Emphasis was placed on producing objective, evidence-based forensic medical opinions capable of assisting judges and juries in evaluating issues of factual and proximate causation. *National Spine Management Group, Expert Review Alliance, 2026.*

Clinical Grand Rounds: Ankylosing Spondylitis—Clinical Recognition, Diagnostic Evaluation, Imaging Correlation, and Evidence-Based Management – Advanced review of Ankylosing Spondylitis emphasizing disease pathophysiology, genetic predisposition, clinical presentation, laboratory evaluation, and multimodality imaging. Discussion included the association of HLA-B27 with axial spondyloarthritis, the role of the IL-23/IL-17 inflammatory pathway, differentiation of inflammatory versus mechanical spinal disorders, radiographic progression from sacroiliitis to syndesmophyte formation and spinal ankylosis, and the role of MRI in the early detection of active sacroiliitis. Additional topics included differentiation from Diffuse Idiopathic Skeletal Hyperostosis (DISH), interpretation of laboratory studies including ESR, CRP, and

HLA-B27 testing, recognition of extra-articular manifestations, and current evidence supporting NSAIDs, TNF inhibitors, and IL-17 inhibitors in disease management. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, 2026.*

Clinical Grand Rounds: Complex Post-Traumatic Cervical and Lumbar Spine Injury Following Motor Vehicle Collision—Clinical Decision Making, Advanced Imaging, and Medical-Legal Documentation – Advanced review of a patient presenting with persistent cervical, thoracic, lumbar, and left upper extremity complaints following a rear-end motor vehicle collision. Discussion included comprehensive history, neurological examination, orthopedic testing, quantitative cervical and lumbar range-of-motion analysis utilizing the AMA Guides to the Evaluation of Permanent Impairment, differential diagnosis of traumatic cervical radiculopathy, lumbar disc injury, ligamentous injury, post-traumatic headache, and mild traumatic brain injury. Additional topics included medical necessity for advanced imaging, contraindications to MRI in the presence of retained pacemaker leads, appropriate utilization of CT imaging, clinical implications of a prior renal transplant located within the iliac fossa, principles of causation analysis, specialist referral decision-making, and development of comprehensive medical-legal documentation supporting diagnosis, prognosis, treatment recommendations, and functional impairment following spinal trauma. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, 2026.*

Effectively Managing Personal Injury Cases, Insurers, and Attorneys From Start to Finish - seminar hosted by Adler Giersch Personal Injury Law. This comprehensive course detailed the complexities of Washington State law, including 2026 updates and the Supreme Court decision in *Schiff v. Liberty Mutual.* There was an exhaustive review of the details, complexities, terminology, and nuances regarding Personal Injury Protection and Underinsured Motorist coverage. In addition, the curriculum focused on navigating L&I and Rideshare claims, managing liens and pre-authorizations, and understanding the specifics of IMEs, ICEs, and records reviews. Additionally, the training emphasized best practices for documenting pre-existing conditions, subsequent traumas, and apportionment. Finally, a presentation discussing how to align patient, provider, and attorney efforts for optimal clinical and legal outcomes. *Adler Giersch Personal Injury Law. Approved for 6 hours of continuing education by the The Washington State Department of Health and Chiropractic Quality Assurance Commission. Seattle, WA, April 30, 2026*

Clinical Grand Rounds: Objective Identification of Cervical Alteration of Motion Segment Integrity (AOMSI) Following Motor Vehicle Collision – Evaluation of a 27-year-old female presenting with delayed-onset cervical pain, headaches, sleep disturbance, and psychosocial symptoms following a motor vehicle collision. Review included quantitative flexion-extension radiographic analysis and SpineCAMP biomechanical assessment demonstrating a C4-C5 translational abnormality measuring 3.7 mm, exceeding the AMA Guides to the Evaluation of Permanent Impairment, 5th Edition threshold for Alteration of Motion Segment Integrity (AOMSI). Discussion focused on objective identification of post-traumatic cervical instability, interpretation of dynamic motion studies, application of AMA Guides impairment criteria, principles of medical causation in whiplash-associated disorders, and the relationship between altered cervical biomechanics and long-term functional outcomes. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, 2026.*

Clinical Grand Rounds: Comparative Analysis of AMA Guides 5th and 6th Edition Cervical Impairment Metrics in Post Traumatic Spine Injury – Advanced review of cervical spine biomechanics utilizing flexion-extension radiography and SpineCAMP computerized motion analysis in a patient demonstrating objective abnormalities at multiple cervical levels following motor vehicle trauma. Topics included

identification of C4-C5 translational instability meeting AMA Guides, 5th Edition AOMSI criteria, evaluation of C2-C3 sagittal offset abnormalities recognized under AMA Guides, 6th Edition methodology, and comparison of impairment rating models between editions. Discussion emphasized the distinction between impairment ratability and clinical significance, interpretation of sagittal alignment abnormalities, application of objective biomechanical findings to causation analysis, and the role of measurable motion abnormalities in long-term prognosis, functional impairment assessment, and medico-legal decision-making. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, 2026.*

Acute vs Chronic Intervertebral Disc Pathology. Understanding Intervertebral Disc Pathology: Advanced Insights into Acute and Chronic Conditions - Participated in a comprehensive session on the pathology of acute and chronic intervertebral disc injuries, emphasizing their mechanisms, pathophysiology, and long-term implications. Explored the biological and mechanical changes in disc injuries through case studies highlighting differences between acute trauma and chronic degeneration. Received an in-depth analysis of degenerative processes, including spondylosis and chronic herniation, focusing on their impact on patient function and quality of life. Discussed practical clinical approaches for managing these conditions in personal injury cases. The session concluded with interactive discussions, promoting a deeper understanding among chiropractic practitioners. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, April 12, 2026*

Acute vs Chronic Intervertebral Disc Pathology. Physical Examination for Disc Injuries: Clinical Assessment Techniques and Applications - Engaged in an interactive seminar focused on advanced physical examination methods for diagnosing disc injuries in personal injury cases. Covered topics neurological and orthopedic testing, palpation techniques, and the identification of red flags for serious conditions. Participants engaged in a hands-on demonstration of clinical techniques, enhancing their ability to perform precise and effective evaluations. Emphasized the integration of examination findings into broader clinical decision-making frameworks. The session highlighted the critical role of thorough examination in correlating physical findings with imaging results for accurate diagnosis. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, April 12, 2026*

Acute vs Chronic Intervertebral Disc Pathology. Advanced Imaging in Disc Injury Diagnosis: Bridging Technology with Clinical Practice - Learned the details on the role of advanced imaging in diagnosing intervertebral disc injuries, tailored for chiropractic professionals. Compared MRI and CT modalities, emphasizing their applications in identifying disc herniation, degeneration, and associated pathologies. Reviewed real-world imaging case studies to demonstrate the interpretation of findings in acute and chronic conditions. Discussed when and how to incorporate imaging into clinical practice to optimize patient outcomes. The session underscored the importance of imaging in validating physical examination findings and supporting documentation for legal purposes in personal injury cases. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, April 12, 2026*

Acute vs Chronic Intervertebral Disc Pathology. Integration of Examination and Imaging in Clinical Practice: A Holistic Approach - Discussions merged physical examination techniques with advanced imaging to refine diagnostic accuracy in spine injury management. Covered strategies for correlating examination findings with imaging data to develop comprehensive treatment plans. Addressed the documentation requirements crucial for personal injury cases, ensuring compliance with legal standards. Engaged in thought provoking pathways on integrating these tools effectively in practice. This approach highlighted the value of a

multidisciplinary framework in enhancing patient care and optimizing clinical outcomes. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, April 12, 2026*

Acute vs Chronic Intervertebral Disc Pathology. Pathology of Disc Injuries: Education and Implications for Case Management - Engaged in a targeted continuing education seminar on the pathology of acute and chronic disc injuries with a focus on personal injury scenarios. The program included discussions on mechanisms of injury, degenerative processes, and the implications for clinical practice. The significance of detailed patient history, physical examination, and imaging in understanding and managing these conditions was highlighted. Insights into developing narratives for case documentation and optimizing outcomes for injured patients was presented. The event fostered interprofessional collaboration, emphasizing the chiropractor's role in a multidisciplinary care model. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, April 12, 2026*

Clinical Grand Rounds: Lumbar Alteration of Motion Segment Integrity and Dynamic Instability Assessment Using SpineCAMP – Evaluation of a complex lumbar spine injury utilizing quantitative flexion-extension radiographic analysis and SpineCAMP biomechanical assessment software. Review included AMA Guides 5th and 6th Edition criteria for Alteration of Motion Segment Integrity (AOMSI), intersegmental angular motion analysis, translational instability measurements, sagittal offset calculations, and identification of abnormal centers of rotation. Emphasis was placed on the clinical significance of dynamic instability at L4-L5, interpretation of abnormal sagittal translation patterns, correlation with patient symptom presentation, and application of objective biomechanical data in trauma-related spine disorders. Discussion included the role of FDA-cleared artificial intelligence-assisted measurement systems in improving diagnostic reproducibility, causation analysis, and multidisciplinary spine management. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, 2026*

Clinical Grand Rounds: Correlation of Lumbar MRI Findings with Quantitative Biomechanical Dysfunction Following Motor Vehicle Trauma – Case-based review of lumbar MRI findings demonstrating multilevel disc pathology, including L2-L3 extrusion, L3-L4 foraminal protrusion, L4-L5 foraminal stenosis with Modic endplate changes, and multilevel posterior disc protrusions. Analysis focused on integrating advanced imaging findings with dynamic biomechanical measurements obtained through SpineCAMP motion analysis. Topics included disc degeneration versus traumatic aggravation, nerve root compromise, foraminal encroachment, Modic classification systems, and the relationship between structural pathology and functional spinal instability. Clinical decision-making strategies for diagnosis, treatment planning, patient navigation, and interdisciplinary referral pathways were reviewed. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, 2026*

Clinical Grand Rounds: Sagittal Plane Biomechanics, Retrolisthesis, and Motion Preservation in the Injured Lumbar Spine – Advanced review of sagittal plane spinal biomechanics utilizing quantitative radiographic analysis and spinopelvic alignment assessment. Topics included lumbar lordosis distribution, pelvic parameters, Grade I retrolisthesis at L4-L5, abnormal sagittal offset measurements, and assessment of regional lumbar motion patterns. Discussion emphasized the relationship between spinal alignment, segmental instability, disc degeneration, and long-term functional outcomes. Special attention was given to the clinical utility of objective motion analysis technologies, interpretation of normative database comparisons, and incorporation of biomechanical findings into personal injury evaluation, impairment analysis, and

evidence-based spine care pathways. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, 2026*

Acute vs Degenerative Intervertebral Disc Disease – Advanced training on sensory nerve ingrowth into degenerating intervertebral discs and its role in triggering chronic discogenic pain following trauma. This course covered the pathophysiological mechanisms behind nerve ingrowth, including annular fissures, inflammatory mediators, and nociceptive activation, and how these factors contribute to the conversion of pre-existing but asymptomatic disc degeneration into a functionally limiting condition post-trauma. Special emphasis was placed on legal causation standards, including the "but for the accident" argument, the Eggshell Plaintiff Doctrine, and MRI findings that support the distinction between pre-existing asymptomatic degeneration and post-traumatic pain syndromes in personal injury litigation. *National Spine Management Group, Federation of Chiropractic Licensing Boards PACE, 2025.*

Acute vs Degenerative Intervertebral Disc Disease – Training on sensory nerve in-growth in degenerating intervertebral discs, focusing on the biochemical mechanisms of nociceptive sprouting and the clinical significance of neovascularization in chronic discogenic pain. The course examined the role of nerve growth factor (NGF), calcitonin gene-related peptide (CGRP), and substance P, which drive sensory nerve expansion and increase pain perception in degenerative discs. Clinical applications included the use of high-intensity zones (HIZ) on MRI as a marker for pathologic nerve ingrowth and the role of regenerative medicine, including platelet-rich plasma (PRP) and stem cell therapy, in mitigating disc-related pain. *National Spine Management Group, Federation of Chiropractic Licensing Boards PACE, 2025.*

Acute vs Degenerative Intervertebral Disc Disease – Presentation on intervertebral disc grading with a focus on the Pfirrmann MRI classification system for disc degeneration. This training provided an in-depth examination of Pfirrmann's five-tier grading scale, detailing its clinical and research applications, as well as its role in legal cases differentiating acute trauma from chronic degenerative changes. The course also covered the comparative inter-rater reliability of disc grading systems, including Thompson, Schneiderman, and Modified Pfirrmann scales, highlighting their strengths and limitations. The Pfirrmann system was recognized as the gold standard for assessing disc degeneration severity, with practical applications in treatment planning, surgical decision-making, and medico-legal documentation. *National Spine Management Group, Federation of Chiropractic Licensing Boards PACE, 2025.*

Acute vs Degenerative Intervertebral Disc Disease – Evidence-based review of the Fardon et al. criteria for intervertebral disc morphology, focusing on the 2014 revisions and their implications for clinical and legal practice. This training covered the differentiation of disc bulges, protrusions, extrusions, and sequestrations on MRI, ensuring proper classification and reporting of disc pathology. Special emphasis was placed on the role of annular fissures, high-intensity zones (HIZ), and Modic changes in diagnosing symptomatic disc disease and distinguishing pre-existing degenerative changes from acute traumatic injury. The course also explored the relevance of these MRI criteria in personal injury and workers' compensation cases, providing a standardized framework for expert witness testimony and medicolegal reporting. *National Spine Management Group, Federation of Chiropractic Licensing Boards PACE, 2025.*

Advanced Strategies for Personal Injury Case Management – This course explored critical aspects of personal injury (PI) cases, including liability and personal injury protection (PIP) insurance, strategies for documenting causality, bodily injury, and persistent functional loss, and the effective use of ICD-10 S and M

codes. The program integrated personalized treatment plans, standard operating protocols (SOPs), and macros for streamlined documentation while addressing primary care challenges in managing PI cases. Practical case studies emphasized collaboration and precision to optimize patient outcomes and ensure compliance with insurance and legal standards. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, 2025.*

Optimizing Documentation and Management in Personal Injury Cases for Chiropractors – This session emphasized the importance of accurate documentation in PI claims, exploring the nuances of liability insurance, medical expenses coverage, and the role of causality in linking injuries to incidents. The lecture included strategies for managing acute and chronic conditions using ICD-10 coding, employing macros in documentation to enhance efficiency, and collaborating with attorneys and other providers. Participants gained actionable insights for integrating ethical and detailed recordkeeping into their practices. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, 2025.*

Best Practices for Chiropractors in Personal Injury Clinics – This session provided an in-depth analysis of exceeding policy limits in PI cases, leveraging umbrella insurance policies, and documenting persistent functional loss for fair compensation. It highlighted the role of chiropractors in supporting legal efforts through comprehensive records, causation evidence, and expert testimony. The workshop emphasized integrating technology, adhering to ethical standards, and maintaining objective measures to ensure credibility and optimize patient outcomes. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, 2025.*

Documentation, Strategy, and Management in Personal Injury Cases – This session was designed to equip healthcare providers with tools for effective PI case handling. Topics included understanding pre-determined treatment plans versus SOPs, overcoming administrative and financial challenges in PI cases, and accurately coding acute and chronic conditions using ICD-10 standards. Emphasis was placed on creating tailored documentation strategies, utilizing macros for efficiency, and balancing automation with personalization. Attendees were trained to strengthen collaborations with legal teams and improve multidisciplinary patient care. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, 2025.*

Radiographic Detection of AOMSI in the Degenerated Spine: MRI Protocols, Segmental Instability, and Intervertebral TranslationAdvanced application of axial and sagittal MRI imaging protocols specifically aligned to the true disc plane for identification of alteration of motion segment integrity (AOMSI) in patients with degenerative disc disease – This course reviews ACR-compliant imaging sequences and emphasizes quantitative biomechanical analysis through measurements of intervertebral angular motion, anterior-posterior translation, and disc height variation across cervical, thoracic, and lumbar segments. Instruction includes threshold values for segmental translation (≥3.5 mm lumbar, ≥2.5 mm cervical), angular rotation parameters, and their legal-medical relevance. Integration with motion segment evaluation enhances diagnostic accuracy in trauma, degenerative pathology, and medicolegal casework. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program 2025*

Modic Endplate Changes as Predictive Markers of Segmental Instability and Biomechanical DysfunctionIn-depth analysis of vertebral endplate signal alterations (Modic Types 1–3) and their clinical significance in evaluating segmental instability, axial low back pain, and surgical outcomes – Participants study the transformation of marrow composition from inflammatory edema (Type 1) to fatty degeneration (Type 2), and ultimately subchondral sclerosis (Type 3), with corresponding T1/T2 signal changes on MRI. Emphasis

is placed on how Modic changes correlate with vertebral motion abnormalities, including sagittal translation, abnormal disc angulation, and spondylolisthesis patterns. The course provides evidence-based criteria for incorporating endplate pathology into differential diagnosis, surgical planning, and long-term spine stability assessment. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program 2025*

Quantitative MRI-Based Grading of Lumbar Disc Degeneration with Integration of Spondylolisthesis and Segmental Alignment MetricsStructured instruction on application of the Pfirrmann grading system for lumbar disc degeneration using T2-weighted sagittal MRI – The grading system is contextualized within a framework of clinical radiology that includes assessment of disc hydration, nucleus-annulus distinction, and progressive disc space collapse. Curriculum expands to include analysis of vertebral alignment using Meyerding classification for spondylolisthesis, measurement of intersegmental disc angles, and detection of segmental kyphosis or hyperlordosis. Instruction also includes correlation with adjacent Modic changes, facet tropism, and ligamentous laxity, supporting a comprehensive biomechanical and diagnostic approach to spine pain evaluation. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program 2025*

Advanced Imaging Analysis of Spinal Curvature, Endplate Morphology, and Angular Motion in Degenerative Spinal Disorders – Comprehensive review of static and dynamic imaging protocols used to evaluate global and regional spinal biomechanics. Participants are trained in measuring cervical and lumbar lordosis using Cobb angle techniques, identifying segmental wedging through disc angle calculations, and recognizing early translational and rotational instability. MRI and radiographic criteria for evaluating vertebral endplate integrity, subchondral marrow changes, and osteophytosis are presented in the context of sagittal balance and degenerative cascade theory. Instruction emphasizes the clinical implications of these measurements in guiding treatment strategy, identifying surgical candidates, and establishing objective documentation in personal injury and chronic pain populations. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program 2025*

Understanding No-Fault vs. Tort Systems in Personal Injury Law – This course provided an overview of the foundational differences between no-fault and tort systems in personal injury law. Learners reviewed the roles of Personal Injury Protection (PIP) and liability insurance in each system and discussed the impact of legal frameworks on claim resolution. The program presented scenarios illustrating the serious injury threshold and limitations on non-economic damage claims. Participants explored comparative examples from states like New York, Florida, and Texas. Key legal principles and practical implications were analyzed to foster deeper comprehension of legal processes and their effects on injured parties. The course concluded with a discussion of litigation risks and strategic considerations for attorneys and insurance adjusters. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, 2025.*

Advanced Documentation Techniques for Traffic-Related Injuries – This program reviewed medicolegal documentation requirements for injuries caused by traffic accidents. Participants were introduced to the importance of recording both external and internal injuries with precision to support accident reconstruction and legal proceedings. The course discussed methodologies for documenting typical injuries based on their mechanisms and severity, including the use of the Abbreviated Injury Scale (AIS) and AO fracture classifications. Participants analyzed case studies to evaluate documentation practices and their role in litigation outcomes. Additional topics included forensic photography, injury diagrams, and the ethical responsibilities of

medical practitioners. The session emphasized the intersection of clinical expertise and legal evidence requirements. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, 2025.*

Exploring Deposition Strategies in Personal Injury Cases This course provided a comprehensive overview of depositions as a pivotal element of the discovery process in personal injury litigation – Participants discussed the structure and function of depositions, including their role in fact-finding, preserving testimony, and shaping litigation boundaries. The curriculum reviewed techniques for questioning witnesses, assessing credibility, and uncovering new evidence. Real-world examples illustrated how depositions influence settlement strategies and trial preparation. The session highlighted the interplay between deposition records and courtroom testimony, emphasizing the importance of consistency and strategic communication. Practical exercises included drafting deposition questions and analyzing transcripts. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, 2025.*

Personal Injury Protection (PIP): State-Specific Requirements and Legal Implications – This course offered an in-depth review of PIP insurance regulations across various states, focusing on the financial and legal nuances of no-fault systems. Participants explored mandatory and optional coverage levels, subrogation rights, and the interaction between PIP and health insurance. The curriculum highlighted significant differences in coverage requirements between states like Michigan, New York, and Florida. Case studies presented challenges in coordinating benefits and navigating waiver options. Learners reviewed the legal mechanisms of subrogation and discussed how PIP impacts settlement negotiations and claimant recovery strategies. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program, 2025.*

Cervical Impairment Rating – AMA Guides to the Evaluation of Permanent Impairment, 5th and 6th Editions – Spring 2025 – Completed expert-level training in the diagnostic evaluation of Alteration of Motion Segment Integrity (AOMSI) in the cervical spine using AMA Guides (5th and 6th Editions). Emphasis was placed on the application of objective criteria including >3.5 mm of translational motion and >11° of angular rotation to identify functional segmental instability. The program detailed the biomechanical rationale for these thresholds and instructed on standardized methods for identifying ligamentous damage based on motion segment behavior. Proficiency was demonstrated in integrating radiographic findings into the impairment rating process and using motion analysis to support clinical and legal documentation. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program 2025*

Cervical Impairment Rating – AMA Guides to the Evaluation of Permanent Impairment, 5th and 6th Editions – Spring 2025 – Received advanced clinical instruction on cervical spine ligament biomechanics, with particular focus on diagnostic interpretation of motion-based instability. Training included radiographic recognition of ALL, PLL, interspinous, supraspinous, ligamentum flavum, and facet capsular ligament injury based on observed translation and angular abnormalities. Coursework emphasized differential diagnosis between structural instability and degenerative changes, and trained participants to correlate imaging findings with symptomatology and patient history. Gained working knowledge of using segmental instability findings to inform rehabilitation, surgical referral, and medico-legal reporting. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program 2025*

Cervical Impairment Rating – AMA Guides to the Evaluation of Permanent Impairment, 5th and 6th Editions – Spring 2025 – Participated in an intensive educational module addressing the legal, regulatory, and

procedural implications of AOMSI analysis in trauma care. Learned how to apply objective measurements to support causation, permanency, and impairment in personal injury and workers' compensation cases. Instruction included strategies for achieving Frye admissibility of digital motion analysis tools, the legal standards for expert witness qualification, and the use of calibrated systems for forensic-level imaging evaluation. Participants were trained to construct defensible reports and testify to clinical findings with biomechanical validity, reinforcing their credibility in litigation settings. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program 2025*

Cervical Impairment Rating – AMA Guides to the Evaluation of Permanent Impairment, 5th and 6th Editions – Spring 2025 – Completed advanced instruction in the technical and clinical components of flexion-extension radiograph acquisition for AOMSI assessment. Focused on the avoidance of common errors such as poor patient effort, non-neutral positioning, and improper sagittal plane alignment. Emphasized the impact of these variables on the validity of diagnostic motion measurements and provided structured protocols for improving reproducibility and clarity in radiographic imaging. Gained hands-on guidance in instructing imaging facilities, refining standard operating procedures, and improving diagnostic yield for motion-based cervical spine pathology. *National Spine Management Group, Federation of Chiropractic Licensing Boards, PACE Program 2025*

Why Pain Is Not Mechanical or Inflammatory – This one-hour post-graduate course examined the neurology and biochemistry of pain states, presenting the evidence that pain should not be viewed as purely mechanical or inflammatory in origin. The course opened with an overview of pain epidemiology from Dr. James Demetrious, a board-certified chiropractic orthopedist, followed by a discussion led by Dr. David Seaman, a Diplomate of the American Board of Chiropractic Neurologists and author of numerous articles and books on pain, inflammation, diet, and obesity management. Course content covered pain biochemistry, identified biomarkers of pain, and evidence-based management strategies to optimize patient outcomes. *Grand Rounds Recording. Instructor: David Seaman, MS, DC, DACNB. Moderator: James Demetrious, DC, DABCO. PostGradDC, PostGradDC is recognized by Providers of Approved Continued Education (PACE) of the Federation of Chiropractic Licensing Board (FCLB). 2025.*

Spontaneous Vertebral Artery Dissection – Grand Rounds Recording – This course examined spontaneous vertebral artery dissection (sVAD), including its prevalence, incidence rates, and role in cerebrovascular events. It used case presentations and an interactive Grand Rounds discussion to address the differential assessment of asymptomatic and symptomatic sVAD, evidence-based management strategies, and the improvement of informed consent processes related to sVAD and stroke. *Instructor: James Demetrious, DC, DABCO. Northeast College of Health Sciences, Postgraduate Continuing Education, PostGradDC, PostGradDC is recognized by Providers of Approved Continued Education (PACE) of the Federation of Chiropractic Licensing Board (FCLB). 2025.*

Scoliosis: Current Research – Completed a postgraduate continuing education course providing a comprehensive review of the literature on scoliosis and chiropractic care, including chiropractic evidence, deficits in the current literature, causes, epidemiology, appropriateness criteria for scoliosis imaging, and posture and core considerations, with emphasis on the need for further research on chiropractic management of scoliosis. *Instructor: James Demetrious, DC, DABCO, PostGradDC. PostGradDC is recognized by Providers of Approved Continued Education (PACE) of the Federation of Chiropractic Licensing Board (FCLB). 2025.*

Uncovering Hidden Instability: Diagnosing and Addressing Upper Cervical Instability and Alar Ligament Tears – This seminar focused on recognizing and conservatively treating upper cervical instability, particularly alar ligament damage resulting from whiplash and other traumatic injuries. The anatomical review of the craniocervical junction covered the myodural bridge complex, coupled motion of the cervical spine, the suboccipital musculature, the accessory atlantoaxial, alar and transverse ligaments, and the third, lesser and greater occipital nerves. It placed special emphasis on evidence that the alar ligament is weaker than the transverse ligament, tears at 6–8% elongation, and is at greatest risk when the head is turned at the moment of impact. Diagnostic instruction included hands-on practice of a clinical test for alar ligament injury, performed by rotating the head at end-range cervical extension. It also covered radiographic positioning, acquisition and interpretation of lateral flexion-extension and APOM lateral bending films, evaluation of C2 spinous rotation and the para-odontoid space, and fundamental lateral cervical mensuration using the skull base to atlas plane, forward head posture and Jackson's lines. Differential diagnosis addressed MRI findings, the tendency of alar ligament injuries toward chronicity, facet-induced radiculopathy and C2–C3 facet pain referral, and the distinction between referred and dermatomal pain. The program closed with non-operative care, including practical training in rectus capitis posterior major and isometric cervical flexor exercises and restoration of the cervical lordosis, with all content grounded in peer-reviewed research. *Chris Cohen, DC, DACNBP, a board-certified functional neurologist, Diplomate from the American Chiropractic Neurology Board (2017) and a certification in Whiplash and Brain Injury Traumatology (2018). Washington State Department of Labor & Industries Consultant Examiner and practicing chiropractic physician, Backbone Chiropractic, Gig Harbor, WA. 2024.*

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, 2024*

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, 2024*

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, 2024*

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, 2024*

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, 2024*

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, 2024*

MRI Protocols Clinical Necessity – MRI slices, views, T1, T2, STIR axial, stacking, FFE, FSE and sagittal images. Clinical indication for the utilization of MRI and pathologies of disc in both trauma and non-trauma sequellae, including bulge, herniation, protrusion, extrusion and sequestration. *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, 2024*

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 vertebrae, 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, 2024*

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 vertebrae, 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, 2024*

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 vertebrae, 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, 2024*

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 vertebrae, 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, 2024*

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. *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, 2024*

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, 2021*

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, 2021*

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, 2021*

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, 2021*

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, 2021

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, 2021*

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 rotatioal 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, 2021*

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, 2021*

Chiropractic Biophysics Basic Seminar: Review of the literature on frequency and duration for establishing a logical treatment plan for Chiropractic patients. The two types of structural based models for chiropractic assessment, interventions and outcomes. The first is a set of average and ideal alignment values for the upright spinal column and the second is an optimum static equilibrium upright postural model; detailed literature presented. The six biomechanical types of subluxation. Abnormal posture and segmental spinal coupling patterns as rotations and translations in 3-D. Alterations of the sagittal plane curvatures. The validity, reliability, projection geometry of CBP analysis methods. The CBP® method of postural examination with practical technique training. Basic definitions and theorems from mechanical engineering governing rigid body motion applied to the spine and posture. The attendee will learn to identify, categorize, quantify, and correct the structural component of the vertebral subluxation complex. *2018*

Non-Opioid Pain Management: Frequency of opioid deaths. Drivers of mechanical pain and functional pathology. How to effectively integrate chiropractic and massage for better care – Key considerations; Cost, effectiveness, long term quality of life. Cost of care spent for low back pain. Unnecessary utilization. The US health care system does not align with the scientific evidence. It does not seem to provide cost-effective care on a consistent basis. And it appears to be producing patients with chronic disabling pain in record numbers.

Today's evidence based guidelines for back and beck care are often not being followed. Manipulation, which is supported by most guidelines, is recommended by primary care physicians in only 2% of the acute non-specific low back pain cases. The more efficient treatment pathway typically begins with a patient consulting a chiropractor. It is also the least costly. Costs for chiropractic care were 40% less than for an MD. Physical therapy pathway was most expensive at nearly 300% more cost compared to chiropractic care. More than 80% of spine costs are associated with non-surgical treatments Optum Data Which covered a two-year cycle projected a total savings of $1.3 billion had the reported 14.7 million non-surgical spinal episodes begun with chiropractic care. Effectiveness of chiropractic and massage care. *Austin McMillin, DC, Washington State Chiropractic Association Annual Conference, 2016*

Integrated Functional Spinal Rehabilitation: Centriforce vertical rehab – Review of rehab climate and better rehab concepts. Measurable assessment options. Dynamic functional rehab options. Rehab concepts of stiffness, fatigue, load strain, muscle substitution, poor motor control. Better functional home rehab care. Clear assessments. Reasonable treatment plans. Skills based rehab. Promote patient independence. Functional pathology cascade. Chiropractic and rehab. Proactive is better than reactive rehab training. Proprioception works within recognizable movement sequences. Training rehab in the upright position. Muscle activation is task specific. Muscle control uses synergies. Control is dynamic and task specific. Control is related to forces. Traditional approaches fail to train control. Focus on endurance is critical. Endurance is measured by time. Haptic influence on stability. Integrated exercises are better than isolation exercises. Distraction challenges stability. Key rehab criteria – endurance, dynamic 3D and free form control, upright posture, complex co-activation, activation speed, respiratory synchronization, feed forward sequences, upper and lower body integration, task specific and goal-oriented movement. Fatty infiltration of multifidus muscles, recognizable on axial MRI images. *Austin McMillin, DC, 2016, 2013, 2010*

Evidenced Based Chiropractic and Lifestyle Protocols, Module 1 - Chiropractic Scientific Certainty: An Introduction to Allostasis, Allostatic Load, and the Chiropractic Health Paradigm. An Introduction to Epigenetics, Gene Expression, Adaptive Physiology, and the Chiropractic Health Paradigm. An Introduction to the Neuromusculoskeletal Effects of Vertebral Subluxation Complex (VSC)/Segmental Motion, Unit Dysfunction. Evidence-Based Clinical Identification and Significance of VSC/Segmental Motion Unit Dysfunction. An Introduction to the Neuromusculoskeletal Effects of Chiropractic Adjustment/SMT. The Evidence and Biological Plausibility of Extramusculoskeletal Effects of Chiropractic Adjustment/SMT LECTURE SEVEN: Evidence-Based Spinal Healthcare: The Unmitigated Disaster of Medical Interventions. Evidence-Based Spinal Healthcare: The Unmitigated Disaster of Medical interventions. Chiropractic Adjustment/SMT: The Gold Standard of Evidence-Based Spinal Healthcare. Chiropractic adjustment/SMT: The Gold Standard of Evidence-Based Spinal Healthcare. Evidence of Past and Present Bias Against Chiropractic in the Literature: An Organized Conspiracy to Deny Cultural Authority and Reimbursement. Exposing the Bias Against Chiropractic in Systematic Reviews and Clinical Guidelines. *James Chestnut, B.Ed., M.Sc., D.C., C.C.W.P., ICA's Council on Evidence-Based and Lifestyle certification program – 2009, 2018*

Evidenced Based Chiropractic and Lifestyle Protocols, Module 2 -- Eat Well - Clinical Nutrition: Clinical Nutrition in the Chiropractic/Biological Health Paradigm. Validly Defining the Human Diet. Identifying the Most Common Nutritional Deficiencies in the Industrial Diet. Identifying the Most Common Nutritional Toxicities in the Industrial Diet. Dairy and Grains: What Every Practitioner and Patient Needs to Know. Fat and Cholesterol: What Every Practitioner and Patient Must Know. Omega-3 Fatty Acids: What Every Practitioner and Patient Needs to Know. Vitamin D: What Every Practitioner and Patient Needs to Know. Probiotics: What

Every Practitioner and Patient Needs to Know. Vitamins and Minerals: What Every Practitioner and Patient Needs to Know. Evidence-Based Essential Nutrient Supplementation versus Nutraceutical Therapy Prescription. Clinical Implementation of Evidence-Based, Chiropractic Paradigm-Congruent Nutrition. *James Chestnut, B.Ed., M.Sc., D.C., C.C.W.P., ICA's Council on Evidence-Based and Lifestyle certification program – 2009, 2018*

Certified Chiropractic Wellness Lifestyle Practitioner Seminar Series - International Chiropractic Association. *Instructors: James L. Chestnut, B.Ed., MSc., D.C., C.C.W.P; Richard A. Baxter, B.Eng., D.C., C.C.W.P, 2009, 2015*

Diplomate of the American Chiropractic Rehabilitation Board (DACRB) - 300 Hour Seminar Series of physical rehabilitation seminars. *Instructors: Craig Liebenson, DC, Stewart McGill, PhD, others, circa 2006-2007. Southern California University of Health Sciences. Completed all the hours, did not take the credentialing exam.*

Chiropractic Biophysics - Series of seminars leading to certification in CBP. *Instructors: Don Harrison, DC; Deed Harrison, DC; Dan Murphy, DC. Circa 1992 to 1996, 2013, 2017.*

Pettibon Spine and Posture Correction Certification Series (All Modules). *Instructor: Burl Pettibon, DC, 1997*