Dr. Howard Austrager DC, DACNB 235 Walnut St., Framingham, MA, 01702

Phone: 508-620-1585 Fax: 508-620-0436

draustrager@metrowestspineclinic.com www.metrowestspineclinic.com

SELECTED OCCUPATIONAL HISTORY

Clinic Director, Metrowest Spine Clinic, Framingham, MA, 2000 – Present Certified Medical Examiner, Mass DOT Exams & Physicals, Framingham, MA, 2012 – Present Independent Medical Examiner, Mass Medical Services, Arlington, MA, 2004 - Present

EDUCATION AND LICENSURE

Doctor of Chiropractic, Licensed in the State of MA, License# CH2400, 1999-Present Doctorate of Chiropractic, Life University, Marietta, GA, 1997
Diplomate in Chiropractic Neurology, American Chiropractic Neurology Board, 2011
National Board of Chiropractic Examiners, Part I, 1996
National Board of Chiropractic Examiners, Part III, 1996
National Board of Chiropractic Examiners, Part IV, 1997
National Board of Chiropractic Examiners, Physiotherapy, 1996
Bachelor of Arts in Psychology, The American University, Washington, DC, 1993

SELECTED POST-GRADUATE EDUCATION AND CERTIFICATIONS

Introduction to the AMA Guides to the Evaluation of Permanent Impairment: Develop a level of understanding of the evaluation criteria as it relates to the AMA Guides 6th edition. Identify the international impairment rating certification available through the American Board of Forensic Professionals (ABFP) Discuss the International Classification of Functioning, Disability and Health (ICF) and its role in impairment evaluation. University of Bridgeport College of Chiropractic, 2011

Accredited Training for the National Registry of Certified Medical Examiners: Describe the role of a Health Care Provider as Certified Examiner for DOT Physicals. Summarize the components of a detailed patient history and examination pertinent to the DOT physical based on the FMCSA guidelines. Evaluate the conditions identified during the history and physical exam with the FMCSA standards for driving status. Outline medical conditions identified in FMCSA guidelines pertaining to the ability to operate commercial vehicles. Identify various health conditions that require further evaluations & testing and monitoring based on the FMCSA guidelines. Certification in FMCSA Certified Medical Examiner, University of Bridgeport College of Chiropractic, US Department of Transportation, 2013

Understanding Whiplash Part 1: This course will detail the biomechanics of low speed rear impact collisions. This includes discussions on the S shaped curve of the spine, general magnitudes of force, factors associated with increased risk of injury and the types of injuries that result from these collisions. Life University,2015

Understanding Whiplash Part 2: Part 2 of this series will focus on specific conditions and symptoms related to whiplash type injuries. Some of the conditions we will discuss include: the etiology of neck pain and headache, radiculopathy, TOS, myofascial pain syndrome, fibromyalgia, post-concussive syndrome, and TMJ. Life University, 2015

MRI Basics Part 1: Although a detailed understanding of nuclear physics is not necessary to interpret MRI studies, chiropractors should have a solid understanding of the basic principles involved in producing MRI images. This course describes the basic fundamental principles shared by all MRI scanners. Life University, 2015

MRI Basics Part 2: The second part to this series will begin with a discussion regarding the multiplanar images of MRI, the shades of gray and the differences between T1 and T2 weighted images. We will then explore the special MRI studies that have been created to help identify different pathologies. This will include discussions on Fat Suppression, Contrast Enhanced and Functional MRI studies. Life University, 2015

MRI Basics Part 3: In the third part of this series we will discuss the Contraindications to MRI, how to read an MRI report, the MRI appearance of DDD, Ligamentum Flavum Hypertrophy, Disc Herniations, Annular Tears and Post-disc Surgical cases. Life University, 2015

Function Based Care Part 1: This course is designed to instruct physicians on the basic principles of function-based care. It will include a discussion on how to demonstrate medical necessity for function-based care, how to perform physical capacity tests, and how to prescribe specific exercises related to the patient's ability to perform those tests. Life University, 2015

Function Based Care Part 2: This course is designed to instruct physicians on the basic principles of function based care. It will include a discussion on how to demonstrate medical necessity for function-based care, how to perform physical capacity tests, and how to prescribe specific exercises related to the patient's ability to perform those tests. Life University, 2015

Passive Care Modalities Part 1: Passive Care Modalities Part 1 will provide you with detailed instruction on symptom-based care. This will include a discussion regarding thermal therapies and electric stimulation and TENS unit integration as an effective pain management tool. Life University, 2015

Passive Care Modalities Part 2: In this course we will continue our discussion on Passive care Modalities. This course will provide information and instruction on Ultrasound, Trigger Point Therapy, and Traditional Traction. Life University, 2015

Neurology of Pain: This course will examine the neurological and physiological aspects of pain transmission and pain perception. Included in this discussion is an in depth analysis of the innate pain modulation systems that, when activated, will reduce a patient's perception of pain without medication. Life University, 2015

Physical Therapy: Discuss the use of electrotherapy to control pain, establish parameters for wobble board rehabilitation of the ankle, describe how SI manipulation affects anterior knee pain, discuss the use of post-fracture manipulation, construct therapeutic exercises for patients with lumbar spinal stenosis New York Chiropractic College, 2008

Reflexogenic Systems: *Review of the structure and function of spinal cord reflexes from monosynaptic to cross cord reflexes.* The Carrick Institute, 2009

Neuromuscular Applications: *Emphasis will be placed on the structure and function of the motor system in relationship to receptor activation.* The Carrick Institute, 2009

Peripheral Nervous System: Structure and function of the peripheral nervous system will be reviewed with emphasis on the clinical syndromes most commonly associated with lesions in the system. The Carrick Institute, 2009

Neuron Theory & Receptor Activation: Advanced components of neuronal structure and activity will be reviewed with emphasis on the relationship between environmental potentials and their effects on the central nervous system. The Carrick Institute, 2009

Spinal Cord: Detailed review of the structure and function of the spinal cord with emphasis on clinical syndromes. Also to be presented is structured methodology to differentiate between various clinical syndromes directly and or indirectly involving the spinal cord. Applications in the treatment of the spinal cord injured patient will be explored. The Carrick Institute, 2009

Chiropractic Adjusting Techniques for Chiropractors: This program of study is central to the hands on adjusting of joints without the use of instrumentation or anesthesia. The participant will be immersed in practical application learning scenarios based upon a neurological model of health care. The Carrick Institute, 2009

Clinical Applications I-IV: Four clinical application modules. Presentation of applications specific to the disorders of the human nervous system. The candidate will learn how to apply advanced applications specific to all areas of the nervous system studied in the Graduate School Program of Clinical Neurology. The Carrick Institute, 2011

The Brain & Its Environment: Review of the internal and supportive structures of the brain with emphasis placed on the major afferent and efferent projections associated with brain activity. Applications specific to brain based treatments will be explored in detail. The Carrick Institute, 2010

Autonomic Nervous System: Emphasis will be placed on the structure and function of the ANS in relationship to respiratory, cardiovascular, gastrointestinal, and genitourinary function and pathology. Autonomic concomitants associated with central and peripheral lesions will be reviewed. The Carrick Institute, 2010

Cerebellar Cortices: Review of the major afferent and efferent projections of the cerebellum as well as the central/peripheral consequences of cerebellar pathology. The relationship of labyrinthine integration to occular movement will be discussed in detail with emphasis on its clinical application. The Carrick Institute, 2010

Motor Systems: Discussion of the structure and function of the major volitional and non-volitional motor pathways. Function of the basal ganglia, cerebral cortex, cerebellum, brainstem and spinal cord will be discussed in relationship to the human motor system. The Carrick Institute, 2011

Head & Face Pain: The most common syndromes involving head pain from migraines to trigeminal neuralgia will be reviewed. The Carrick Institute, 2010

Neurological Diagnosis: *Presentation of a structured format in approaching the neurological examination..* The Carrick Institute, 2010

Cranial Nerves: Complete review of the structure and function of the cranial nerves with emphasis on their clinical syndromes. Applications and procedures specific to this area of the nervous system will be covered in detail both didactically and practically. The Carrick Institute, 2010

Sensory Systems: The major sensory pathways will be discussed specific to their structure and function. Central processing of sensory information will be reviewed in relationship to thalamic and cortical integration. Disorders of the sensorium will be reviewed and methodology introduced to aid in differentiating these disorders from central and peripheral origins. Carrick Institute, 2010

Pain: Pain generating mechanisms will be reviewed from the receptor to central processing. Central mechanisms for pain inhibition and facilitation will be reviewed with emphasis placed on the clinical syndromes associated with pain integration. The Carrick Institute, 2010

Lobes of the Brain: Review the basic functions and structures associated with the frontal, parietal, temporal and occipital lobes. Methodology involving the use of optokinetic stimulations and other brain based diagnostics and therapeutics will be reviewed. The Carrick Institute, 2010

Functional Blood Chemistry: This comprehensive course is designed to review the primary concepts of human physiology, laboratory biomarkers, and blood chemistry patterns. This course is designed to equip the attendee with the necessary foundation and focus to start in Science-Guided Wellness. University of Bridgeport, 2011.

Neurotransmitters and the Brain: This course is designed to review the key concepts of brain chemistry, recognize patterns of imbalances, recognize cases that may need to be referred for further consult or evaluation, and improve overall clinical competency in neurochemical assessment. A review of brain neurochemistry and neurodegenerative disorders will be followed by clinical insights and jewels. University of Bridgeport, 2009

Case Studies in Nutritional and Functional Medicine - Chronic GI Disorders and Fatigue, Identify the challenges inherent in the diagnosis and management of patients with complex and chronic multi-factorial problems. Associate a multitude of common symptomatic complaints with foundational metabolic disorders such as elevated total toxic load and "leaky gut." Apply a systematic approach to functional laboratory diagnostics and associate the findings with the need for specific therapeutic strategies using nutrients, botanical medicines, and nutraceutical compounds. Demonstrate an ability to institute life-style modifications, such as dietary changes, stress management techniques, and exercise in the management of patients with complex chronic illness. Measure your ability to assess, diagnose, and treat patients with fatigue-related disorders, vague gastrointestinal complaints, cognitive dysfunction, thyroid-adrenal problems, food intolerance, and more. University of Bridgeport College of Chiropractic, 2013

Case Studies in Nutritional and Functional Medicine - Hypertension and Food Allergy, Identify the challenges inherent in the diagnosis and management of patients with complex and chronic multi-factorial problems. Associate findings such systemic skin problems with foundational metabolic disorders. Apply a systematic approach to functional laboratory diagnostics and associate the findings with the need for specific therapeutic strategies. Discuss the modification of your approach to case management based on outcome-assessment. Assess, diagnose, and treat patients with serious food allergy and sensitivity, dermatologic disorders, immune dysfunction, and persistent serious hypertension. University of Bridgeport College of Chiropractic, 2013

Clinical Detoxification: Part 1 - Identify the sources of toxic exposure in modern industrial society, the prevalence of exposure, and the health ramifications of elevated total toxic body burden. Associate a multitude of common symptomatic complaints (ie: fatigue, cognitive dysfunction, skin problems, global pain, etc.) with foundational metabolic disorders related to issues such as elevated total toxic load and "leaky gut." Discover the specific biochemical methodology utilized by human metabolism to render toxins harmless and excrete them from the body. Explain the inherent complications within the normal detoxification process related to the formation of toxic intermediates and the increase in oxidative stress. Explore the effect of elevated oxidative stress on mitochondrial function and cellular energy production. University of Bridgeport College of Chiropractic, 2013

Clinical Detoxification: Part 2, Identify various pathologies associated with increased toxicity and total oxidative stress Outline specific strategies of patient assessment to determine toxic load and individual hepatic detoxification capacity. Discriminate between the various pathways of hepatic detoxification biochemistry and objectively assess each pathway. Explain the use of specific nutrients, nutraceutical compounds, botanical

medicines, and foods to lower oxidative stress. Explore the benefits and complications of adjunctive therapies in the management of patients with elevated toxic load and poor detoxification capacity. University of Bridgeport College of Chiropractic, 2013

Management of Functional GI Disorders, Frame the problem and basic epidemiology of chronic G.I. disorders Present evidence of linkage between chronic G.I. disorders with other common medical conditions. Discuss the current hypothesis of associations between intestinal hyperpermeability and systemic illnesses. Review cutting edge assessment tools and tests for G.I. disorders Outline and suggest rational and efficacious cutting-edge non-drug treatment interventions for functional G.I. disorders. University of Bridgeport College of Chiropractic, 2013

Diagnosis and Management of Fibromyalgia A Report From the Cases and Conversations Workshop, Case Studies of Fibromyalgia Cases. Johns Hopkins School of Medicine, 2008

SELECTED MEMBERSHIPS

Business Network International, Chiropractic Physician, 2009-Present Massachusetts Chiropractic Society, 2000-2003
International Chiropractic Association, 1999-2003

SELECTED HONORS AND AWARDS

Best of Metrowest/Framingham Chiropractor, Readers Choice/Wicked Local, 2014 Best of Metrowest/Framingham Chiropractor, Readers Choice/Wicked Local, 2013 Best of Metrowest/Framingham Chiropractor, Readers Choice/Wicked Local, 2012

SELECTED COMMUNITY SERVICE

Ride To Defeat ALS, Wayland, Massachusetts, 2012-2013