

Title: Defining the Future of Laser-Based Care
Changing the Orthopedic and Neurological Treatment Paradigm
Teachers: J. Brandon Brock, DC, DNP, APRN, NP-C, DACNB/Kristin Hieshetter,
DC
Date: 12/8-12/9/23
Times: Friday, 11:00-6:45pm & Saturday, 8:00-2:00pm EST
Hours: 12

Course Overview:

Overall Course Description: As doctors of chiropractic, we are providers who facilitate wellness and lifestyle changes to bring about patient recovery and restoration of health by incorporating low-level laser therapy. Low-level laser is a modality that has become contemporary in its capacity to enhance patient recovery from pain and function by enhancing the photochemical properties of cellular function. The photochemistry upregulation that occurs while using low-level laser therapy has the potential to positively influence tissue, enhance neural circuits, reduce pain, and enhance orthopedic and biomechanical factors. Applying a low-level laser to a patient can be life-changing in many clinical scenarios by optimizing systems physiology. This course will give attendees a comprehensive overview of enhancing patient recovery by stacking new low-level laser therapy (LLLT) principles and modalities for optimal health. This available modality demonstrates patient safety and FDA evaluation and has a promising current and future impact on how manual therapists, nutritionists, and medical providers offer and combine therapeutic services.

Program goals / Educational objectives relevant to the seminar:

- Differentiate and review the various classes of low-level lasers, and outline the therapeutic effects of each as appropriate dosages obtained through calculating joules.
- Discuss the Low-Level Laser Therapy wavelengths, the metabolic targets of various wavelengths, and the integration of wavelengths into health restoration.
- Devise strategies for obtaining biochemical markers paramount to healthy physiology, and create a plan of action for both clinician and patient to resolve health barriers.
- Incorporate hands-on approaches to assess mechanobiology and mechano-transduction and understand their roles in regulating cellular biochemistry, gene expression, and tissue development.
- Understand the physiological relationship between the cranial system, spine, and cerebrospinal fluid dispersion as they relate to neurodegenerative disease.
- Assess spinal and extremity dysfunction, determine the upper motor and lower motor neuron factors, and use a low-level laser to correct maladaptive movement patterns.
- Discuss differences in the Autonomic, Sympathetic, Parasympathetic, and Enteric Nervous Systems, and develop strategies to facilitate synchronization of these systems using Nutrition, circadian rhythms, movement, and low-level laser therapy.
- Identify molecular mediators in Gut-Brain Access syndromes, and develop clinical strategies, behavioral modifications, and nutritional therapies to reset physiology.
- Recognize environmental drivers of abnormalities in inflammatory and autoimmune diseases, and create protective strategies.
- Identify key indicators of brain imbalances, use low-level laser therapy to reduce aberrant biofeedback into the central nervous system, and utilize protective strategies for enhancing brain health and function.
- Understand the influential roles of Nutrition, supplementation, sleep hygiene, meditation, and "stacked therapies" to overcome the most challenging clinical conditions.

The Top Ten Program Topics:

- Documentation, consent, and patient management.
- Appropriate management (Capabilities of LLLT based on research and clinical experience).
- Cellular physiology and the properties of low-level laser therapy. (All wavelengths).
- Aspects of diagnosis and differentials related to orthopedic and neurological systems.
- Supportive Nutrition over orthopedic and neurological conditions.
- Appropriate use of laboratory analysis
- Hands-on demonstrations for clarity and concept solidification.
- Co-management and case integration
- Top take-home points for care and integration
- Safety to maintain due diligence for the public at large. (Disclaimer described)

Instructional Methods:

- On-stage presentation
- Live streaming
- Power-point usage
- Dry-erase board usage
- Hands-on demonstrations
- The ability to play back after watching
- Q and A sessions.
- Notes available
- Post-session testing for credit as set forth by the standards needed per hour.
- Regulation of sign-in and sign-out methodology.
- A bonus of one pre and one post-one-hour webinar to those that register early.

Program Outline:

Friday

11:00-6:45pm

10:30 – 11:00am Registration

11:00 – 12:00pm Therapeutic Laser in The Human Body (Dr. Kristin Hieshetter) (Basic Sciences)

- Low-Level Laser fundamentals
- Classes of lasers and their medical applications
- Hormesis and low-level laser applications
- Overview of common clinical conditions amenable to laser care

12:00 - 1:00pm From the Cell to the System (Dr. Brandon Brock) (Basic Sciences)

- Wavelength and electron transport chain function
- Mitochondria, cellular respiration, and ATP production
- Neuronal Excitotoxicity
- Neuronal Plasticity

1:00 - 1:15pm Break

1:15 - 2:15pm Epigenetic Influences on Cellular Health (Dr. Kristin Hieshetter)

(Physical Therapy & Physiological Therapeutics)

- Neurochemistry and Nutrition
- Glycation, degeneration, and aging
- Fatty acid ratio implications in human physiology
- Baseline supplementation for optimizing brain health

2:15 - 3:15pm From the Cellular Environment to the Systems (Dr. Brandon Brock)

(Research Trends)

- Causes of inflammation
- Metabolic syndrome, obesity, and joint pain
- Review of basic labs
- Case study

3:15 - 3:30pm Break

3:30 - 4:30pm Gut-Brain Systems in Central Nervous System Recovery (Dr. Kristin Hieshetter)

(Adjustive Technique)

- Traumatic Brain Injury – Case Study
- Vertebral Fracture, rib fracture, concussion – Case Study
- Enteric Nervous System Interventions
- Cranial Protocols

4:30 – 5:25pm A Developing Systems Approach to Treatment (Dr. Brandon Brock)

(Principles of Practice/Philosophy)

- Creating the hierarchy of treatment
- The joint-brain connection
- Brain therapeutics
- Brain therapeutics

5:25-5:30pm Break

5:30 – 6:30pm Brain and Biomechanical Connection (Dr. Brandon Brock) (Adjustive

Technique)

- Treatment of the foot and ankle
- Demonstration of evaluation, diagnoses, and clinical concepts
- Demonstration of evaluation, diagnoses, and clinical concepts
- Case study

6:30 – 6:45pm Question and Answers (Dr. Kristin Hieshetter & Dr. Brandon Brock)

Saturday

8:00-2:00pm

8:00 – 9:00am Brain and Biomechanical Connections (Dr. Kristin Hieshetter)

(Adjustive Technique)

- Assessment of Pelvic instability

- Active and Passive approaches to stabilize sacroiliac joints
- Demonstration of evaluation, diagnoses, and clinical concepts
- Case Study

9:00 – 10:00am Brain and Biomechanical Connection (Dr. Brandon Brock) (Adjustive Technique)

- Treatment of the knee and lower extremity and biomechanics
- Demonstration of evaluation, diagnoses, and clinical concepts
- Demonstration of evaluation, diagnoses, and clinical concepts
- Case study

10:00 – 10:15am Break

10:15 – 11:15am Brain and Biomechanical Connection (Dr. Kristin Hieshetter) (Examination Procedures/Diagnosis)

- Assessment of temporomandibular joint
- Cranial adjusting support for temporomandibular joint
- Demonstration of evaluation, diagnosis, and clinical concepts
- Case Study

11:15 – 12:15pm Brain and Biomechanical Connection (Dr. Brandon Brock) (Examination Procedures/Diagnosis)

- Treatment of the shoulder and elbow
- Demonstration of evaluation, diagnoses, and clinical concepts
- Demonstration of evaluation, diagnoses, and clinical concepts
- Case study

12:15 – 12:30pm Break

12:30 – 1:30pm Brain and Biomechanical Connection (Dr. Kristin Hieshetter) (Examination Procedures/Diagnosis)

- Cervicogenic headache
- Cerebrospinal fluid gradients and the dural pump
- Environmental EMF exposure and subsequent risk to the cells
- Demonstration or evaluation, diagnoses, and clinical concepts

1:30-2:00pm Question and answers (Dr. Kristin Hieshetter & Dr. Brandon Brock)

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