

Abstract for RACE Program

Program Title: Ultimate Healing with Lasers in Veterinary Medicine - Research to Clinic Applications

Program Description:

This 4-hour seminar will explain the quantum physics behind laser therapy, including dosage, frequencies, and electron volt potential and how it applies to the laser classification system and indications for laser therapy. Attendees will receive an in-depth explanation of lasers in the Violet, Green, and Red spectrums. Dr. Starr will highlight the frequency of treatment as it relates to cellular communication and creating laser protocols. This seminar will include how lasers work in the body, differentiating photochemical effects on the electron transport chain of the mitochondria vs. photothermal effects causing vasodilation. The many factors that inhibit mitochondria and associated diseases will be discussed. Balancing the autonomic nervous system through sympathetic/parasympathetic stimulation is vital to optimal cellular function.

Demonstrations & training on specific musculoskeletal and dermal conditions with lasers and using the laser to augment treatment for organ failure, glandular dysfunction, brain dysfunction, behavior problems and neoplasia will be shared. Attendees will be shown many case studies to illustrate responses to laser therapy in practice situations. Finally, ample time for questions and answers will be provided to ensure a complete understanding.

Method of Delivery: *Classroom/Online/Distance Based Learning*

Learning Objectives:

- *Outline brief explanation of how lasers work based on quantum physics and molecular heating.*
- *Explain low-level laser technology to their staff and clients.*
- *Apply low-level laser to everyday musculoskeletal and dermal conditions seen in a veterinary clinic.*
- *Organize comprehensive explanation of how lasers work based on quantum and molecular physics & the effect of violet, green, and red wavelengths of light on the mitochondrial transport chain.*
- *Apply scientific knowledge to decide what type of laser to have in their clinic and how to use each class of laser clinically.*
- *Use safety precautions dictated by OSHA and ANSI for the hospital staff and patients.*
- *Differentiate low-level laser therapy types for an individual patient based on what the indications are for that laser and avoid contraindications.*
- *Demonstrate low-level laser therapy to complex medical conditions seen in a veterinary clinic.*
- *Analyze low-level laser therapy types for an individual patient and add it as a stand alone or adjunct therapy to treatment protocols.*

Program Agenda

Registration

Hour 1 Basic Laser Physics including Wavelength, Electron Volt Potential, Photochemical lasers - The Electron Transport Chain in Mitochondria, Photothermal lasers - heat and vasodilation, Frequency, Dosage, and Duration, Laser Therapy for Musculoskeletal Conditions, Laser Therapy for Dermal Conditions, Case Studies

- *10 Minute Q & A on Section*

45 Minutes What is a laser? Wavelength, Electron Volt Potential, Electromagnetic Spectrum , Visible Light Spectrum vs Non-Visible Light Spectrum, Photochemical Lasers - The Electron Transport Chain in Mitochondria, Photothermal Lasers - Heat and Vasodilation

Break 1 Hour

45 Minutes The Laser Classification System, Power, Dosage, Safety - OSHA and ANSI, Class 2 (Violet, Green, and Red) - Indications and Contraindications, Class 3B/4 (High Power and/or Infrared) - Indications and Contraindications.

- *10 Minute Q & A on Section*

90 Minutes Frequency as a way of Cellular Communication, The Effect of Violet, Green, and Red light on the Electron Transport Chain in Mitochondria, How an Increase in ATP Enhances Cellular Function, Mitochondrial Inhibition, Laser Therapy for Organ Failure, Glandular Dysfunction, Brain Dysfunction, Behavior Problems, and Neoplasia, Autonomic Nervous System Balancing, Case Studies

- *10 Minute Q & A on Section*

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Date of application: 7/18/23

Initials of program administrator: PJH

