

A special advertising section

# Integrating low-level lasers into practice

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For The Education Center

An excellent summary of Albert Einstein's theory regarding the thermal properties of light, which laid the basis for the photon theory and the foundation for light amplification by stimulated emission of radiation, or laser, was presented by Gordon-Palm J.<sup>1</sup>

Laser therapy energizes living systems. Four-well accepted effects in the scientific literature are:

- \* Biostimulation, or tissue regeneration
- \* Reduction of inflammation
- \* Analgesia
- \* Enhanced immune function, or antimicrobial effect

By increasing energy available in this form, laser light is able to stimulate the biological function of cells, tissue and systems. When energy is available, the body

can heal itself. Laser therapy has been shown to stimulate the regeneration of bone, blood, the lining of blood vessels, cartilage, nerve, and muscle. It has been documented to enhance the quality of healed tissue. It may not only effectively address many medical conditions but also has been widely reported to improve health and wellbeing as evidenced by a host of biological markers.

"Laser phototherapy" has been proposed as a more accurate name to differentiate low-level laser therapy treatment from low intensity, coherent, monochromatic light from surgical or other high powered applications. The exception is Class IV therapeutic lasers, which have some positive biostimulatory effects but also heat

tissue more and carry higher risk. High power laser therapy or high intensity laser therapy are terms that have been suggested to distinguish these treatments.

I introduced LLLT into my mobile canine and equine integrative veterinary practice and chose a laser with variable frequency, four laser diodes and a 5 mW power output with a wavelength of 635 nm. This was based on reports from colleagues and an extensive search of the scientific literature. I have treated numerous conditions including pain/inflammation, arthritis, bone fractures, ligament and tendon tears, laminitis, colic, abscesses, endocrine disorders, wounds, etc., in dogs, horses and a limited number of cats, with very rewarding results.

Presented below are two cases treated in my practice.

*This Education Center article was underwritten by Erchonja Corp. of McKinney, Texas.*

*Dr. Brown owns Animal Health Options in Magnolia, Texas.*

## Case No. 1 Chronic intervertebral disc disease

### History

Sundance, a 7-year-old male long-haired Dachshund. Sundance had a history of about five weeks of pain that had gradually intensified. At the time of referral he had been on cage rest, was slow to rise and had reduced mobility. He was on four medications: prednisone, Valium, tramadol and gabapentin. He had been referred for a neurological workup and potential surgery. The owner wanted to try alternative therapy before committing to surgery so he was referred to Animal Health Options for further evaluation.

### Physical Exam

Reluctance to move neck and moved with caution. Veterinary orthopedic manipulation assessment revealed sensitivity in the cervical and lumbar region of the spine and the L & R ischium. Neurological exam did not reveal any abnormal findings.

Radiological assessment: The radiographs were evaluated by a board-certified radiologist who reported the following opinion: chronic intervertebral disc disease without definitive evidence of intervertebral disc space narrowing. Given the clinical signs, occult intervertebral disc protrusion/extrusion remains primary differential, although

inflammatory or neoplastic spinal disease could not be ruled out.

### Initial Treatment Plan

Prednisone and valium were removed from Sundance's treatment regimen. A combination of VOM and laser treatments using specific settings for pain and arthritic conditions of spine, with the initial schedule outlined below. Sundance's caretaker was instructed to wean him off the tramadol and gabapentin by only administering on an as-needed basis

### Response

By Day 8 Sundance was off all medication and was experiencing minimal pain. Day 14 he was practically back to normal activity and appeared pain free. He was able to be bathed and groomed during the fourth week and was considered to be back to his normal activity level.

Treatments were continued twice a week for two weeks then once a week for two weeks at which point the treatments were discontinued and Sundance was monitored for any recurrence. A joint supplement, Dasuquin, was added to Sundance's treatment protocol on Day 20.

### Follow Up

A checkup call six months later found that Sundance was still doing well.



## Case No. 2 Head injury. Damage to a horse's trigeminal and facial cranial nerves

### History

Cinnamon had caught her head between bars of a pen. She had abrasions in the TMJ area and appeared to have neurological damage as she was unable to eat. She was tube fed for two months at another veterinary practice. At the time of presentation to AHO, she was eating on her own but unable to chew correctly and had excessive salivation. She had lost a lot of weight and was not gaining weight back.

### Assessment

Possible damage to cranial nerves V and VII (trigeminal and facial)

### Treatment Plan

Laser treatments for scar tissue in the area of TMJ and neurological regeneration to the nerve pathways of cranial nerves V and VII.

### Treatment

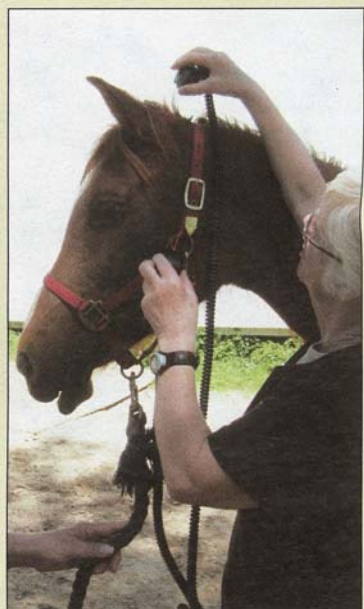
Cinnamon was treated three times the first week, twice the second week and she received three more treatments over the next four weeks (owner scheduling issues).

### Response

Owner reported that after the first treatment the excessive salivation decreased. As the treatments progressed, the owner observed gradual improvements, and after the fifth treatment stopped soaking the alfalfa cubes as Cinnamon was able to chew them.

### Follow Up

One week after the eighth treatment the owner trailered her to a ride and ponied her. A few weeks after that the owner rode her and she was back to her old self, despite some residual drooping of lower lip. Rechecked Cinnamon 14 weeks post first treatment and she was back to her normal weight and the lower lip was no longer drooping. ●



## REFERENCES...

1. Vet. Practice News Dec 2012 page 20