

A special advertising section

What vets often ask about laser therapy

By Jeff Smith, DVM, CCRP
For The Education Center

This is the first in a series of answers to frequently asked laser therapy questions originally posed on one of Companion Animal Health's educational "Ask an Expert" webinars. The names laser therapy (LT) and photobiomodulation (PBM) are used interchangeably.

Q Do most clinics use laser therapy during and/or after surgery?

A Most veterinarians think of photobiomodulation, or laser therapy, primarily as a modality for musculoskeletal pain and rehabilitation. Nonetheless, superficial conditions like wounds and dermatitis respond dramatically and quickly to LT. Postop and intraop use of LT for surgical wounds falls into this category, and this is an oft-used and well-substantiated application of PBM.

Both intraoperative and postoperative treatments are done off-contact with the tissue so that sterility is maintained. Benefits include marked reduction in pain, edema, swelling and adhesions, as well as modest improvements in healing quality. Since these wounds tend to be smaller, more superficial areas, both the time and cost of application are low. PBM also follows the new AAHA/AAFP Pain Management Guidelines, which call for nonpharmaceutical multimodal management of pain.

Patients exhibit less self-mutilation, more postop comfort and incisions that appear to be 20 to 30 hours more advanced in healing than they actually are. Most often the charges for these applications are incorporated into the cost of the procedure or the cost of the postop pain management package.

Q What are the benefits of using laser therapy after dental extractions?

A This question closely parallels the postop/intraop question since extractions are essentially a type of dental surgery. Similarly, benefits include marked reduction in pain, edema, swelling and self-trauma, as well as modest improvements in healing time. PBM use postdental or post-extraction is also consistent with the AAHA/AAFP guidelines. Treatment times are relatively brief, and we apply the therapy both open mouth (off-contact) and closed mouth (on contact) to insure optimal tissue dosing.

Q How do I know which treatment head to use?

A As a rule, the contact heads—deep-tissue applicators or massage ball handpieces—are used for pathologies not visible to the eye. For example: musculoskeletal conditions, abdominal conditions, closed mouth, deep/horizontal ear canal. Why? Because we know that we get 90 percent better dose delivery to deep tissues with the contact heads due to compression, blanching, hair parting and decreased reflection facilitating direct introduction of light into the tissue.

The noncontact heads—scanning handpieces, or off-contact heads—are used for pathologies visible to the eye. For example: dermatitis, visible otitis, stomatitis, surgical wounds, granulating wounds. Some conditions benefit from using both methods: otitis (superficial and deep), stomatitis (open and closed mouth), and degloving injuries (open wound and surrounding tissue).

Q How can I improve laser therapy's performance in old, arthritic dogs?

A First, let's establish that you absolutely should be achieving very good to excellent results with LT in these patients. If you are not, four primary areas need to be addressed:

- Proper dosing and delivery of the laser therapy. (For Dr. Smith's 10 factors in selecting proper doses and using effective laser delivery techniques, email info@companiontherapy.com.)
- Inclusion of all affected structures.
- Accurate diagnosis.
- Consideration of multimodal interventions.

Q How often is laser therapy recommended to treat significant hip dysplasia/OA?

A A lot. These more-advanced cases of OA/HD require following a six- to 12-treatment induction plan (three times per week) using proper dosing technique until clinical improvement is noted. Prescribing a higher dose (i.e., 20 Joules/cm²) might be considered. As a rule, chronic conditions respond to chronic treatment. Gradually transition to one treatment a week with the goal of maintaining desired clinical effects with one treatment every two to four weeks. Remember that multimodal interventions will allow LT to be maximally effective.

Q Do you have advice for treating severe DM?

A Yes. Robin Downing, DVM, Dipl. ACVSMR, CVPP, and others have seen promising results dosing DM at 30 Joules/cm². This is three times the normal

deep-dosing protocols for the spinal segments but is an example of our ongoing and developing knowledge of treating various conditions. This is definitely an example of a case in which I would underpromise and hope to overdeliver because of its more refractory nature and underlying pathology.

Q If you follow the protocol and the patient fails to respond, do you increase the frequency of treatments or ...?

A The most frequent reason for failure is not following recommended protocols or techniques closely. The second reason is not addressing all the areas or all the pain the patient is experiencing. The third is not diagnosing all the problems present. The fourth is relying on LT alone or not incorporating a multimodal approach to the problem or pathology. If those four reasons have been addressed, then my first choice is to double the energy dose to the refractory area and associated areas. So, if I have a dog with a particularly bad hip, I will double the dose to 20 Joules/cm², and I do that by simply using the protocols to treat that hip twice. I might also choose to treat the LS spine in a similar fashion.

Q How often should the cold laser be used to treat extensive, infected wounds?

A The terms "cold laser" and "low-level laser therapy" (LLLT) are outdated because when device settings range from 0.5 to 15 watts, neither is accurate. The better term is "higher-powered class IV therapy lasers." Even LT has been superseded by PBM to describe the effects of infrared light on tissue. And that is the most helpful and accurate way to move forward as we employ and discuss this modality.

My rule of thumb for extensive wounds is this: I treat them daily for three to six treatments while they are acutely inflamed. After that, I change to three times a week or every other day. This often corresponds with the progression in bandage changes from once daily to every other day, and it reflects the now-chronic stage of wound healing that the injury is in. This interval can continue for weeks or months depending on the size of the area that is healing or epithelializing. ●

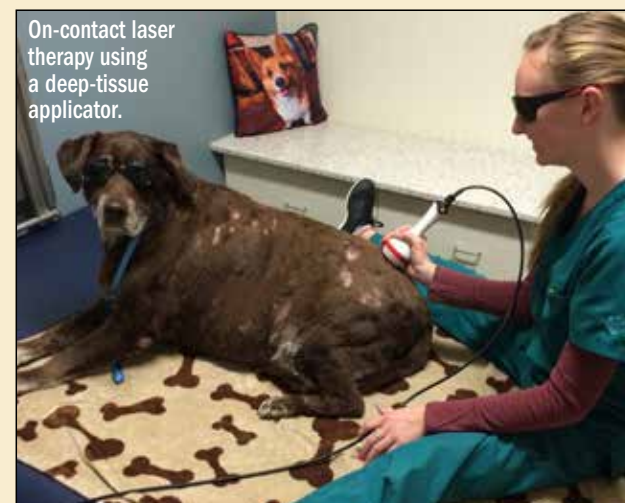
Dr. Jeff Smith owns Middletown Animal Hospital and All Valley Equine veterinary practices in Middletown, California. A past president of the California Veterinary Medical Association and a CCRP graduate, he is a frequent lecturer and a consultant to Companion Animal Health.



Noncontact laser treatment.



A laser is used intraoperatively to reduce pain and edema.



On-contact laser therapy using a deep-tissue applicator.

This Education Center article was underwritten by Companion Animal Health of Newark, Delaware.