A special advertising section

Fire victims benefited from laser therapy

By Jeff Smith, DVM, CCRP
For The Education Center

On Sept. 12, 2015, the Valley Fire burned 70,000 acres in Northern California within 24 hours. The fire torched three communities, 1,400 homes and over 9,000 vehicles.

Many people ran for their lives, and many others were away from home, so a huge number of pets, horses and livestock were left to survive on their own. Many perished, many were injured and many were lost or made homeless.


Burned cat paws were a common and pitiful result of the Valley Fire in Northern California.

As one might imagine, the impact of the fire on animals was devastating. The animal relief effort that followed was coordinated out of the local veterinary hospital and comprised three components: search and rescue, veterinary care and donations (feed, foods and supplies).

During the response nearly every domestic species was treated: cats, dogs, horses, sheep, goats, chickens, cows, pigs and even koi. Some of the surgeries that were performed included digit amputation, tendon repair, bladder stone removal, dental repair, wound/burn debridement or repair, upper respiratory repair, limb amputation and prolapsed rectal repair.

Among the conditions treated: burns, smoke inhalation, parasites, vomiting and diarrhea, hip relocation, heart failure, dermatitis, heartworm disease, rectal bone removal, IVDD, hemoabdomen, otitis, FAD and lameness.

One aspect of the response that might be surprising, but that was immensely helpful, was the use of laser therapy to stimulate PhotoBioModulation (PBM). Many veterinarians are aware of the use of PBM for rehabilitation and chronic conditions like osteoarthritis. However, fewer veterinarians are as familiar with PBM to treat acute and emergent conditions.

The unique way in which PBM modulates pain, stimulates healing and reduces inflammation can be a important component of a successful multimodal pain/inflammation management regimen. In fact, the new AAHA/AAFP Pain Management Guidelines recognize this fact and stipulate the incorporation of modalities like laser therapy to optimize outcomes.

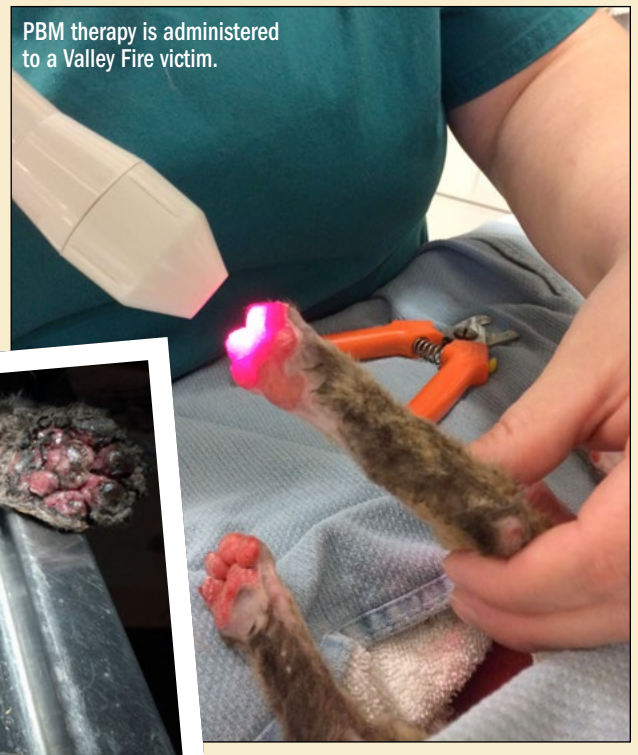
Three examples will help demonstrate PBM's usefulness while treating disaster victims.

Feline Injuries

Hundreds of animals, including a disproportionate number of cats relative to other species, were treated for burns. The high number of feline patients was likely a result of their more free-roaming status, which allowed them to escape death but not the fast-moving fire.

As veterinarians know, burns are very painful and slow healing, so being able to provide PBM at each bandage change was a substantial enhancement to the wound care, buprenorphine, gabapentin, NSAIDs, antibiotics and supportive care that these cats received.

PBM treatments of all four feet typically took less than 10 minutes of technician time, so the therapy was quite efficient.


PBM therapy is administered to a Valley Fire victim.

It was reassuring to know that granulation and epithelialization of the wounds developed 50 to 100 percent faster than with non-lasered burns. Finally, studies showing that those healed wounds would have higher tensile strength and elasticity than non-PBM-treated burns gave added confidence that the patients were treated with the best medicine available.

Gunshot Victim

Miclo presented an interesting fire-related case. He was a pit bull that had been blasted twice with a shotgun at close range, presumably because he was loose and aroused someone's fear, though he was an extremely sweet patient throughout all his medical care.

One blast was to his muzzle and the other to the lateral aspect of his RH gaskin, with an injury to his peroneal nerve. Both wounds were treated with debridement, bandaging and PBM. In addition, antibiotics, NSAIDs and tramadol were prescribed.

When Miclo's primary wounds began to heal nicely, he was referred to the University of California, Davis, for advanced dental surgery. After he returned, Miclo's peroneal nerve injury—continuing to walk on the dorsum of his foot—was treated with rehabilitation: PBM, underwater treadmill therapy, proprioceptive/balance exercises and a toe-up orthotic. This was a great illustration of using PBM in both the acute and rehabilitative phases of a traumatic injury.

Happy Ending

In a third example, a young Rottweiler named Tarr was surrendered during the fire because of debilitating lameness from severe hip dysplasia, mostly because the owners were overwhelmed by the impacts of the fire.

A local rescue group helped arrange a bilateral FHO and rehabilitation, which culminated in Tarr's adoption to a new and loving family.

PBM was used to "pre-habilitate" as well as provide post-op pain management and rehabilitation for Tarr, along with UWTM therapy, cold therapy, physical exercise, PROM, and pharmaceutical management.

This case was a good example of the continuity of benefits from PBM pre-op, post-op, and during rehabilitation from orthopedic surgery.

Other Cases

Many other acute and nearly all post-surgical conditions were treated with PBM, including an equine with a T-post wound, a cat with a hip dislocation and a dog with IVDD. The benefit to patients with post-procedure wounds and acute conditions is a sometimes overlooked application for PBM.

Nonetheless, because these acute conditions respond acutely, they are very gratifying to treat. In other words, the perceptible changes induced by PBM can be recognized within hours to days of initiating therapy in these emergent cases. Even one or two treatments can measurably accelerate the healing process and diminish pain significantly, and recent published studies have documented this phenomenon.

PBM Therapy

As an added bonus, PBM therapy is doctor-prescribed and technician-administered. The techniques are straightforward and easily mastered. Most applications for post-procedure or acute conditions take two to 15 minutes, depending on the size and depth of the area being treated.

PBM therapy is a modality that should be considered for acute and post-surgical conditions. Its use in emergency and disaster medicine situations is very beneficial to the patients while also being very practical for the practitioner.

The mechanisms by which PBM work are unique and provide an additional and important component to a comprehensive program of multimodal pain care and wound healing.

Last but not least, clients greatly value the outcomes, expertise and medical technology associated with PBM therapy, which is exactly the goal for the services veterinarians provide. ●

Dr. Jeff Smith owns Middletown Animal Hospital and All Valley Equine veterinary practices in Middletown, Calif. 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.


Tarr receives PBM therapy after double FHO surgery.

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