

Shining a light on Photobiomodulation (PBM)

Despite PBM (formerly called low-level laser/light therapy LLLT) being studied for around five decades using accepted evidence-based scientific methodology, it is a shame there is still hesitancy and openness within the UK mainstream human and animal health sector to embrace its full potential.

In other countries PBM is integrated more often as an integrative therapeutic modality to assist the healing process and promoting overall 'wellness' with a wide range of applications, especially helping all animals both in practice and at home to improve clinical outcomes.

Since Photizo Vetcare's launch in 2013, its success has been proved by a raft of animal health professionals. The clinical successes across musculoskeletal conditions, atopic issues, wound healing and in reducing pain and anxiety is not only scientifically documented, but repeatedly observed by real-life cases.

Whatever arguments in the plethora of documented science or even manufacturers' claims about the 'best protocol' or 'best wavelength' or 'best pulsed frequency' or 'best power output', the reality is there is a wide window of effective PBM dosing that will, far more often than not, result in positive biological effects via cellular messengers.

PBM is simply a way of delivering energy (using photons) into the body to facilitate and often accelerate the natural healing processes...one of the key mechanisms is to fire up the production of ATP in the mitochondria where cell respiration takes place.

Sadly, some of the 'scepticism' surrounding PBM is oftentimes heightened by the on-going debate between the efficacy of 'laser' over LED (Light Emitting Diode) sourced red/near-infrared light. The ideal scenario is for the integration of both for the best clinical outcomes. The conversation is not about banishing laser for LED, it's about doing what's best for the individual patient!

However, the likes of a professional therapeutic laser (class 3b or 4) are costly and can be prohibitive for many independent practitioners and pet owners. All laser light poses risk to eyes, protective eyewear is crucial, and works intensely at one given area using a coherent pinpoint beam of light.

Contrast this to the latest technology of high-power LED PBM, safe for eyes and offers 'effective' doses of 'red/near-infrared' light. LED has a spread-out beam of

light with greater application potential (local & compensatory), not least for use at home in-between professional treatment sessions. Plus, apart from such devices being lightweight, portable and easy to operate, they're more affordable both for in-practice and home use.



One clear message from documented studies is PBM works accumulatively. For best results, it should really be deployed 'little and often'. This is why the Photizo concept was born, to be the ideal solution and enable 'top-up's' in-between less frequent professional laser therapy sessions.

It's common misnomer to think that 'harm' can be caused if over-dosing with LED sourced devices, when the reality is there are vital 'inhibitory effects' observed in studies, which is pain inhibition (analgesic effects). This justifies the fact that, for pain relief, the dose needs to be stronger. However, for healing effects, 'less is more' so, for example, it's recommended to apply less frequent and lower doses to an open wound area. Dosing guidelines are published by WALT (World Association for Photobiomodulation Therapy).

Whatever PBM device is being deployed the key is for the practitioner to understand the full potential of their device and adapt its application with practical critical thinking and even common sense in every individual case. For practitioners choosing more affordable LED PBM, what's important is to apply the device appropriately to achieve positive effects that will be clinically measurable (if not necessarily 'optimal'). Know your device, what's the dose it provides? Apply it directly or only 1cm away from the skin to ensure there is minimal loss of light into the tissue.

These days, for proactive wellness & sports recovery, there are red light (LED) panels to bathe with PBM, used



alongside massage or other manual therapies, but does 'bathing' offer the level of dosing required for diagnosed injuries/conditions?

There are wearable LED devices that attach to specific areas such as wrists, elbows, over the back and can be an advantage for busy pet owners.

However, wearables are often much lower power than handheld devices (due to heat produced from LED's), so achieving a viable dose into multiple areas of inflamed/restricted tissue will inevitably take much longer.

From a naturopathic perspective, it's important to factor in an animal's natural healing parameters. It's well known through other modalities such as integrating herbs, and essential oils, that valuable insight is gained from the pet's ability to 'self-select'. Similarly with physical therapies pets should have choice to move away when they feel they've had enough. Ruth Milner, co-founder of Danetre Health Products, has worked in the electrophysical modality sector for over 25 years and a member of The International Light Association, she explained:

"My view is, there's been an organic modern evolution of this modality over the last two decades to evidence the fact that PBM application is not to be limited to professional treatment sessions only. Modern high-output safe LED technology delivering a viable dose into the tissue and applied regularly

is also to be utilised outside the professional treatment setting. This means at home, to promote recovery and on-going maintenance or could mean in a stable/yard/enclosure, vet practice or even in a field to achieve best outcomes - whatever condition is being treated on whichever animal.

I am concerned that the PBM modality needs more understanding and is NOT just for application during a professional treatment session, or to encourage an owner to bring the pet back in two weeks or month for another session. If this is how it's being 'sold' to owners, it's not how this modality is to be correctly applied in accordance with documented evidence.

The overall concept of Photizo Vetcare is the fact that LED PBM is viable and safe for home use and a key solution to the limitations of practice-based laser. I feel it's important for practitioners to communicate this to their clients so pet owners can also be proactive and bond with their pets using PBM. Applying a device appropriately, everyday initially if needed, post trauma, during rehabilitation, managing pain, and of course in prevention and promoting wellness in the first place is the overall message from PBM experts across the world.

Photizo is manufactured under Medical Device regulations to fill the gap between professionals and home users for maximum benefit to their pets."



RED LIGHT THERAPY

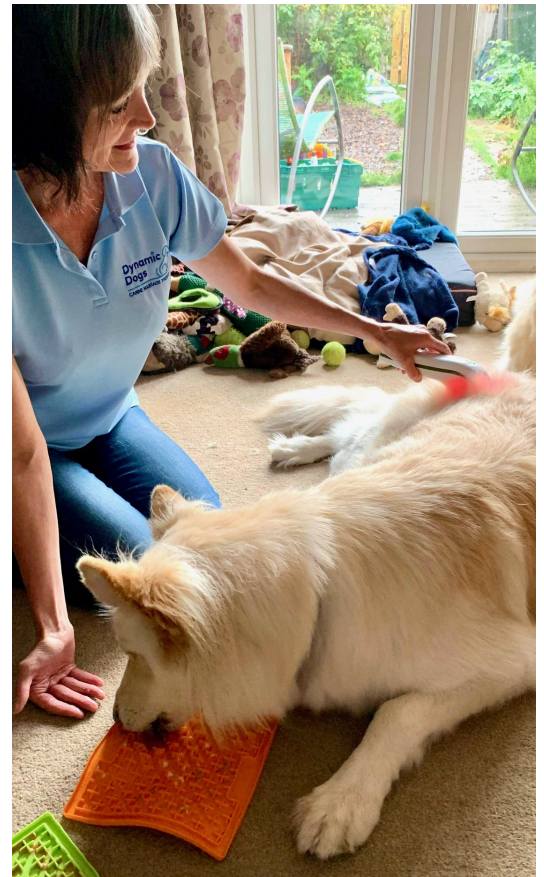
Increasing numbers of practitioners and pet professionals are, through experience, seeing the benefits of PBM when deployed as per the evidence for use in between professional sessions. The irony is that by empowering pet owners, it builds on-going relationships with clients and recommendations as well as happy and healthier pets!

Sarah Darling, massage therapist, and founder of K9 Gait Massage concurs: *"As a practitioner, every day I witness the profound impact that Photizo has on the physical and mental health of our dogs. For the owner, it has given them power in the palm of their hand to help manage and support their best friends' wellbeing and quality of life"*

Similarly, massage therapist, Aly Grant, founder of Dynamic Dogs Massage enthused: *"I truly believe every person who has a dog (or any other animal) should have a Photizo Vetcare system in the house. It's a game changer product."*

Ruth Milner sums it up: *"As Photizo Vetcare has just celebrated its 10th anniversary, it's becoming more apparent the dose guidelines we already have for superficial and deep tissue healing are likely to be the tip of the iceberg for PBM. Dynamic research is expanding on a huge number of health conditions and this modality can be positively used for animals and humans"*.

1. www.gov.uk/government/publications/laser-radiation-safety-advice/laser-radiation-safety-advice
2. www.danetrehealthproducts.com/



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