

## **Photobiomodulation Therapy PBMT Q and A**

### **What is Photobiomodulation Therapy or PBMT?**

Photo-bio-modulation therapy or PBMT is a non-invasive therapy that uses light on the infra-spectrum to help treat pain and inflammation for a variety of conditions in veterinary medicine. Examples include wounds and skin hot spots, osteoarthritis, gingivitis, ear inflammation and post-surgical incision sites. PBMT also promotes the healing of diseased tissue.

### **Is PBMT the same as “Laser Therapy”?**

PBMT is often referred to as laser therapy or “cold laser” therapy because light energy is used in this technology. The term can be confusing as there are also surgical lasers that can be used to cut tissue during surgery. For this reason, we are trying to get away from the term “laser therapy” and instead use PBMT to better describe this technology.

### **How does PBMT work?**

Light on the infra-red spectrum is applied to a particular site using specialized heads or applicators that are designed for the condition being treated. The light penetrates the cells in the region and stimulates the mitochondria, the energy-producing bodies in cells, to release a variety of substances and chemical mediators that produce a multitude of biological reactions that decrease inflammation and pain but also stimulate the body to enhance healing of the tissues. Refer to <https://www.youtube.com/watch?v=g1Jek7bLOM4> for more specific information.

### **Is PBMT painful for my pet?**

No. PBMT is completely painless and non-invasive. In fact veterinary patients will often relax and fall asleep during the treatment. Sedation is not required for most patients. The patient may feel a slight warming in the area being treated.

### **Are there any side effects to PBMT?**

No. As this is a non-drug therapy, there are no side effects.

### **Why are safety goggles required to be worn during PBMT?**

Although the light beam used in PBMT is never pointed toward the eyes, precautions are still taken to decrease the risk of exposure of the light beam to eyes which can be damaging to the retina. Although the risk of this is extremely low with proper use of the equipment, safety glasses and goggles are worn at all times by those that are present during the session. We have special safety glasses for humans and “Doogles” that are designed to be worn by veterinary patients. Regular sunglasses are not suitable. Should the veterinary patient object to wearing Doogles, then a towel can be gently placed over their eyes.

### **Can pet owners be present during the treatment?**

Absolutely! In fact, we encourage pet owners to be present.

### **How long does a PBMT session last?**

This will vary depending on the condition being treated. Wounds or skin hot spots may take 3-5 minutes. Conditions like osteoarthritis of the joints may take longer, and a 15 or 30-minute session may be required. The protocol is specific to the condition being treated.

### **How many treatments will be required?**

This depends on the medical condition being treated. Acute conditions may only require 1- 2 treatments. Chronic conditions will require more treatments but will be weaned down as the patient starts to respond to the treatment. Our veterinarians will prescribe a protocol that will work best for the patient.

### **Are all laser or PBMT systems created equal?**

No. There are many human and veterinary systems on the market. Older technology uses lower class lasers, that are less powerful and take much longer to administer a treatment. It is also important for protocols to be tailored to the size of the patient, the hair coat thickness, skin colour and condition being treated. One-size does not fit all! For this reason, we have invested in a PBMT Company who is committed to ongoing research and education in the area of PBMT and has developed specific protocols for a variety of conditions in veterinary patients.

### **How is PBMT utilized at Mountain Vista Veterinary Hospital?**

There are many, many uses! PBMT is used on a regular basis in our post-surgical patients. As part of a multi-modal approach to the treatment of pain, all post-op incisions are treated with PBMT as the patient recovers. At MVVH, we take post-operative pain management very seriously and have decided to include PBMT routinely, along with other techniques.

### **What other conditions can PBMT be used for?**

New uses and protocols are being established almost every day as this technology becomes mainstream and more and more cases are reported in the scientific literature. Common conditions include skin wounds or hotspots, anal gland infections, inflammatory ear conditions, chronic gingivitis and osteoarthritis.

### **Are there any conditions where PBMT should not be used?**

Currently, PBMT is not recommended to be used on lesions that have been confirmed to contain cancer cells. Although effects on cancer cells are currently unknown, skin masses, joints or bones that have cancer cells present should not be directly treated until more is known about the effects of PBMT on cancerous lesions. For this reason, some cases may require tests to be performed that rule out the possibility of cancer cells being present prior to PBMT.

### **What are the advantages of PBMT over using medications for pain?**

The main advantage is no side effects. Since medications expose the entire patient to a particular drug, there is always the risk of potential side effects. Since PBMT targets a specific region, only the area being treated is exposed. Furthermore, the light generated by PBMT only produces positive effects in the underlying tissue, with no risk of side

effects or harm. Also, systemic medications do not typically enhance healing and regeneration of damaged tissue. This is one distinct advantage of PBMT.

### **Can PBMT be used as a substitute for pain medications?**

The approach to treating pain in our pets should be multi-modal. PBMT is meant to be an aid in treating pain and inflammation but is not a substitute for a proper broad-spectrum treatment plan. In chronic conditions such as osteoarthritis, pain meds may be discontinued in some patients or weaned down, while others will have better pain management when both are used together having a synergistic affect. Proper nutrition, weight management, rehabilitation and exercise, and joint supplements also play a vital role. In acute and post-op conditions, PBMT is meant to aid in the control of pain and enhance the healing process while using other treatments.

### **For chronic conditions such as the management of osteoarthritis in my pet, how long will the effects of PBMT last?**

Depending on the patient and the region(s) being treated, the veterinarian will prescribe a series of treatments that may be every other day or twice a week in the beginning. There is an induction phase that is needed in the beginning to get the patient feeling better. As the patient responds, fewer treatments are required, when the patient can enter a maintenance phase where treatments can be much further apart. Since osteoarthritis is a chronic condition, as with using medications, PBMT will likely be required long term to stay ahead of pain and inflammation but treatments may be as little as once or twice a month. Every patient will respond a little differently and a treatment program will be fine-tuned for each individual patient.

### **What are signs of osteoarthritis in our pets?**

Many pet owners report that their pet appears to be “slowing down”. Your pet may be hesitant to go on long walks, jump up into the car or go up or down the stairs. Some patients may no longer want to walk on tile or wood floors without a carpet for stability. Having trouble rising after lying down or having trouble lying down are also signs of pain. Limping is a true sign of pain and should be investigated. Cats may not be jumping as they use to or may start having accidents outside of their litterbox. It is important to realize that veterinary patients tend to cope with their pain and will not always cry out, so recognizing signs in your pet is important and may be more subtle and difficult than you think. Sometimes we don't realize how painful they are until we treat their pain and realize how much more alert and active they become.

### **Other than producing pain and inflammation, what are other negative effects of osteoarthritis (OA) in our pets?**

OA has a negative effect on overall quality life. It can lead to obesity, muscle wasting, and poor appetite and decreased interactions with family which is important for mental health. Loss of toilet habits, poor self-grooming in cats and early decision for euthanasia, are also some of the negative sequelae to untreated OA.

### **Is PBMT used in human patients?**

Yes! In fact much of what we have learned has come from the human side and the scientific studies in this area. Many of our pet owners have had PBMT or laser therapy themselves.

### **Is PBMT expensive?**

PBMT is very affordable and for those patients requiring multiple treatments, bundling plans are available. PBMT is now being accepted by many pet insurance companies provided a veterinarian has prescribed its use for a specified medical condition (but it is always wise to check with your insurance company). Compared to the cost of the chronic use of pain medications, PBMT can be more cost effective.