



PHOTOBIOIMODULATION

LASER therapy as supportive care for patients undergoing cancer treatments.



WHAT IS PHOTOBIOIMODULATION (PBM)?

PBM IS A NON-INVASIVE, DRUG-FREE, PAINLESS THERAPY THAT USES THE POWER OF LIGHT (LASERS, LED & INFRARED LIGHT) TO REDUCE PAIN & INFLAMMATION, PREVENT & PROMOTE WOUND HEALING, AND ASSIST IN OVERALL TISSUE REGENERATION. PBM HAS BECOME A KEY FACTOR IN HELPING PATIENTS PREVENT AND TREAT ORAL MUCOSITIS (OM).

WHAT IS ORAL MUCOSITIS (OM)?

Mucositis occurs when cancer treatments inadvertently break down normal healthy cells along the gastro-intestinal tract. The oral mucosa which lines the inside of the mouth is one of the most sensitive parts of the body and is vulnerable to chemo and radiation therapies. The breakdown of cells results in painful sores throughout the oral cavity.

HOW COMMON IS OM?

The majority of oral cancer patients receiving chemotherapy in combination with radiation will experience at least some degree of mucositis. About 40% of cancer patients treated with chemotherapy develops mucositis, this percentage rises to 60-85% for patients undergoing hematopoietic stem cell transplantation (HSCT) and to almost 90% for head and neck cancer (HNC) patients treated with radiation plus chemotherapy.

HOW DOES PBM HELP PREVENT OM?

PBM works by initiating a biological process at the cellular level when the light is absorbed. The process is similar to photosynthesis in plants. As the light penetrates the photoreceptor in the mitochondria of your cell, healthy cell function is the result. In a sense, PBM helps to restore normal cell function by reducing inflammation and edema, reducing oxidative stress and stimulating tissue repair.

WHY CHOOSE PBM THERAPY?

Oral mucositis is the most common, debilitating complication of cancer treatments. It can lead to several issues, including pain, nutritional problems as a result of inability to eat, and increased risk of infection due to open sores in the mucosa. It has a significant effect on the patient's quality of life and can cause interruptions to treatment. Managing OM is imperative. PBM is the No. 1 way to prevent OM and is recommended by MASCC, the Multinational Association of Supportive Care in Cancer.

HOW SAFE IS PBM THERAPY?

PBM therapy was developed in the 1960's and has been cleared by the FDA. Its safety and effectiveness has repeatedly been demonstrated through clinical research. It is completely pain free, with no negative side effects. The procedure can be safely performed on anyone, including children.

WHEN TO START PBM THERAPY?

OM starts to develop deep within the tissue and therefore, should be treated prior to the appearance of lesions. PBM is recommended as a preventive therapy and should begin when the cancer treatment begins.

Stephanie Amey, RDHAP, BS has been a registered dental hygienist since 2005. In 2007, she became certified to use lasers as an adjunct therapy in the dental office. In 2012, she completed an additional program to attain her Alternative Practice License. This allowed for preventive care services to be provided to a broader population in a variety of settings, including the patients' residence, hospitals, nursing homes, etc. Continuing her professional journey, Stephanie became a CA Dental Board Approved Provider in 2018 and has conducted laser education and training to hundreds of dental professionals in the region. Through the years, she saw that there was a need to bring her knowledge and expertise with lasers and PBM to reach patients undergoing cancer therapy. Keeping the oral cavity clean and free of lesions can contribute to the overall success of a patient's treatment plan. Stephanie now has the privilege to support patients through PBM therapy as a way to prevent OM.