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Photobiomodulation (PBM) for Treating Fibromyalgia

Overview

Photobiomodulation (PBM), has shown promising effects in managing fibromyalgia, a chronic condition characterized by widespread musculoskeletal pain, fatigue, and sleep disturbances.

Mechanisms of Action

1. Pain Modulation – PBM stimulates the release of endorphins and serotonin, promoting analgesia. It also downregulates pro-inflammatory cytokines (e.g., TNF- α , IL-6) and upregulates anti-inflammatory mediators.
2. Mitochondrial Function – PBM enhances cytochrome c oxidase activity, improving ATP production and cellular energy.
3. Improved Microcirculation – Vasodilation and improved oxygenation reduce ischemia and localized hypoxia.
4. Neuromodulation – PBM helps normalize autonomic nervous system activity, often dysregulated in fibromyalgia.



Suggested PBM Device Protocols for Fibromyalgia

Target	Application Site	Device	Frequency
Pain/Tender Points	Directly over site	SPRB	2–4 times per day as needed until relief obtained
Muscle Relaxation	Directly on Site and full body	SPRB, GPRB and TYM	2–4 times per day as needed
Fatigue/Cognition	Directly and full body	SPRB, GPRB and TYM	2–4 times per day as needed

Considerations for use of PBM devices

PBM Devices can provide a drug free, convenient and easy to use method of helping manage the pain and symptoms associated with fibromyalgia

- PBM should be adjunctive and can be combined with exercise, CBT, or medications as needed.
- Monitor patient response—some may require more than suggested frequency when first starting use of devices due to the severity of their symptoms
- Safety profile is excellent, with minimal side effects reported (e.g., mild warmth).

References

1. Gur A, Sarac AJ, Cevik R, Altindag O, Sarac S. Efficacy of low power laser therapy in fibromyalgia: a single-blind, placebo-controlled trial. *Lasers Med Sci.* 2002;17(1):57-61.
2. Yousefi-Nooraie R, Schonstein E, Heidari K, et al. Low level laser therapy for nonspecific low-back pain. *Cochrane Database Syst Rev.* 2008;(2):CD005107.
3. Gonzalez-Lima F, Barrett DW. Augmenting cognitive brain functions with transcranial lasers. *Front Syst Neurosci.* 2014;8:36.

Disclaimer

The information provided in this document is for educational and informational purposes only. It is not intended as a substitute for professional medical advice, diagnosis, or treatment. Individuals should always consult with a licensed physician or qualified healthcare provider before beginning any new therapy, including the use of photobiomodulation (PBM) devices.

PBM devices such as the SPRB and GPRB are wellness tools designed to support general health and well-being. They are not medical devices and are not intended to diagnose, treat, cure, or prevent any disease or medical condition. No medical claims are made or implied. Results may vary based on individual factors, and PBM should not be considered a replacement for appropriate medical care.