



Photobiomodulation (PBM) for Neck Pain: Evidence and Protocols

What is Photobiomodulation?

Photobiomodulation (PBM) uses specific wavelengths of red and near-infrared light to stimulate cellular function. Light is absorbed by mitochondria, enhancing ATP production, reducing oxidative stress, and improving microcirculation. These effects support inflammation reduction and tissue repair, making PBM especially useful for cervical region pain and tension.

PBM is particularly effective in patients experiencing chronic neck tension, cervicogenic headaches, or postural neck strain.



✓ Clinical Benefits for Neck Pain

- A 2020 meta-analysis of 17 RCTs found that PBM significantly reduces pain and improves function in chronic neck pain. [Live link](<https://pubmed.ncbi.nlm.nih.gov/32096855/>)

- PBM applied to the cervical spine and occiput reduces headache frequency and neck stiffness. [Live link](<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7402365/>)



🔧 Mechanistic Evidence

PBM modulates inflammatory cytokines (↓ TNF- α , IL-6), upregulates IL-10, and improves mitochondrial function. This reduces muscle fatigue and enhances tissue oxygenation in the cervical spine. [Live link](<https://pubmed.ncbi.nlm.nih.gov/33342800/>)

Suggested Protocols: SPRB & GRPB

1. SPRB – Localized neck pain
 - Place on lateral neck or cervical spine
 - 660 nm + 850 nm light, 50:50 mix



- 15 minutes/session, up to 2x/at once for total of 30 minutes – up to 3 sessions per day, follow this dosing protocol until symptoms subside
- long term maintenance 3–5×/week for chronic pain
- Helps relieve stiffness and enhance microcirculation

2. GRPB – Broader cervical application

- Wrap around the base of the neck and upper thoracic area
- 660 nm (1/3) + 850 nm light, (2/3)

- 15 minutes/session, up to 2x/at once for total of 30 minutes – up to 3 sessions per day, follow this dosing protocol until symptoms subside
- long term maintenance 3–5×/week for chronic pain
- For diffuse or systemic neck tension

For enhanced systemic effects, additional sessions can be applied to the areas around the neck to help create and stimulate a more generalized light therapy delivery and hence overall effect

Monitoring & Safety Tips

- Use on clean, dry skin and apply directly on skin
- Allow device to cool if it overheats
- PBM is safe and non-invasive



Conclusion

PBM is a validated treatment for neck pain and postural strain. With consistent use of SPRB or GRPB, users experience improved range of motion and reduced discomfort.

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 GRPB 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.