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# Very Low Level Laser Therapy Attenuates Edema and Pain in Experimental Models

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## Abstract

In this study, we tested a new square wave microprocessor-controlled red laser with an extremely low peak power output (<3 mW; very low level laser therapy [vLLLT]) in experimental pain in the rat. Acute inflammation was induced by intraplantar injection of carrageenan, chronic inflammation was induced by complete Freund's adjuvant (CFA) and neuropathic pain was produced by sciatic nerve chronic constriction injury (CCI). In our study vLLLT was effective in reducing edema and hyperalgesia in acute and chronic inflammation if administered at the points usually selected for acupuncture. Moreover, spontaneous pain and thermal hyperalgesia were reduced in CCI rats treated with vLLLT. In conclusion, vLLLT reduced edema and induced analgesia in experimental plantar pain in rats. We interpret this to mean that enkephalin mRNA level was strongly upregulated in the external layers of the dorsal horn of the spinal cord in CFA and CCI animals, and that vLLLT further increased the mRNA level in single neurons.

## LinkOut - more resources

### Other Literature Sources

[The Lens](#)

### Medical

[ClinicalTrials.gov](#)

[MedlinePlus Health Information](#)