From inhibition of pain nerve fibers to anti-inflammatory effects: the emerging role of low level laser therapy in pain management

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Low level laser therapy (LLLT) or photobiomodulation therapy (PBMT) has been extensively studied for nerve pathologies and significant developments have been achieved in the last several decades. LLLT adoption has been steadily rising by chiropractors and other medical professionals and has been included in several recent evidence-based guidelines. LLLT is known to induce analgesia via conduction block of central and peripheral nerve fibers and endorphin release. Research has also shown LLLT increases neurite sprouting and outgrowth, Schwann cell proliferation, ATP production, gene expression, angiogenesis, neovascularization as well as decreases oxidative stress and inflammation. This presentation will review LLLT mechanisms of action as they relate to the management of pain and clinical applications for disc herniation, spinal stenosis, nerve entrapment syndromes, chronic regional pain syndrome amongst others. Case studies and peer-reviewed randomized control trials will be discussed.

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