



Inter-professional Spine Assessment and Education Clinics (ISAEC)

ISAEC Quick Stats...

Patient referrals to date: **6006**

Average wait time: **12 days**

Patients needing Imaging/Specialist: **390**

Treatment Options for Lower Back Pain: What's Out There?



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Questions?
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Many of you have interacted with patients who have received modalities as treatment for their Lower Back Pain (LBP). The evidence for these approaches in the short, medium, and long terms is mixed at best, with a consensus that they may provide short term pain relief, and be used as an adjunct to an exercise based program, but not as a standalone intervention. Passive energy based modalities like low level laser therapy (LLLT), interferential current (IFC), TENS, ultrasound, and microcurrent all purport to help LBP sufferers and in some cases, are presented as the only solution. In addition to their effect on pain, other physiologic effects are purported to occur. The evidence for these effects are generally limited to animal studies and are inconsistent in clinical settings, or when systematically appraised. In fact, a recent published clinical practice guideline looking at the non-invasive management of LBP recommended against many of these passive modalities, or reported insufficient evidence to make a specific recommendation for or against their use.ⁱ Despite this, these modalities continue to be used as stand alone treatments claiming that when

used as part of a regular treatment regimen, they will result in the desired outcomes of condition resolution. Unfortunately, this commonly does not occur, and if relief is experienced, it is difficult to attribute success to natural history or the utilized modality. Laser is no different. As part of this review, we shall take a closer look at this commonly used modality.

Evidence suggests that LLLT offers pain relief in the short term, but not in the medium or longer term, from chronic non-specific LBP sufferers, but does not have an effect on disability in the short or medium term. The mechanism behind the effects seen with LLLT are not fully understood. The suspected mechanisms include increased endogenous opioid neurotransmitter production, raised threshold to thermal pain, enhanced local blood circulation, increased oxygen consumption by accelerating the redox reaction rate of the electron respiratory chain of mitochondria, increased ATP production at the cellular level, and/or increased production of anti-inflammatory cytokines.ⁱⁱ



The challenges with LLLT, as with other modalities, is the fact that the therapeutic effect is dependent on a number of factors such as wavelength used, energy density (Class 3 vs. Class 4 LLLT units), the number of treatments (treatment frequencies range from 2-3x/week for a total of 10-20 visits), their duration, the patient's body type and skin colour, age, tissue depth, and tissue type being targeted. In many instances, the lack of intra and inter-rater reliability with respect to the variables described above explain the mixed results often encountered in terms of patient experiences with this modality, and others: works for some but not for all.

In short, LLLT may be used to obtain short term pain relief for chronic, non-specific LBP. However, they are not a substitute for active based care and self management strategies which have been proven in the literature to be the most effective solution for managing both current and future episodes of LBP. ISAEC APCs are trained in the workings of passive modalities and will be better able to educate patients on their use and effectiveness. In addition, patients are provided with a comprehensive assessment and are prescribed an individualized self-management program based on their clinical presentation.

References

ⁱWong et al. (2016). Clinical practice guidelines for the noninvasive management of low back pain: A systematic review by the Ontario Protocol for Traffic Injury Management (OPTIMa) Collaboration. *Eur J Pain*. doi:10.1002/ejp.931

ⁱⁱHuang et al. (2015). The Effectiveness of LLLT for nonspecific LBP: a systematic review and meta-analysis. *Arthritis Research & Therapy*. 17:360 (363).

Did you know?

ISAEC has released its annual PCP survey. Please check your email for the link.

Your input is invaluable.