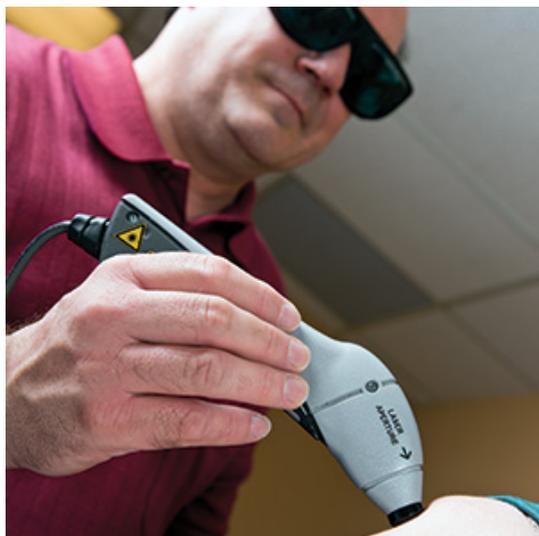


Summary of Laser Use in Treatment of Pain and Inflammation

Recently, the use of lasers by physical therapists and dentists to treat painful inflammatory conditions of the musculoskeletal system, including the temporomandibular joint, has increased. Class IIIb laser instrumentation, which produces low-level infrared laser light, became widely available to clinicians who began applying this modality to a wide variety of painful musculoskeletal conditions, including carpal tunnel syndrome, overuse injuries including humeral epicondylitis (painful inflammation of the tendon at the outer border of the elbow), rotator cuff injuries, plantar fasciitis, myofascial trigger points (knots that form in damaged muscle tissue), low back pain, arthritic joints and temporomandibular joint dysfunction.



The observed effects of lasers on biological tissues appear to be the result of concentrated light energy producing photochemical (non-thermal) or photothermal (heat-producing) mechanisms. Mitochondrial cytochromes (the area of a cell which generates energy and then releasing energy) absorbs red light energy which in turn facilitates cellular repair and reproduction. This allows for enhanced healing of damaged tissues associated with acute and chronic soft-tissue injuries.

Alteration of the sensory input to the central nervous system decreases the perception of localized pain. Low-level laser also assists in the relaxation of large veins, large arteries which allows for increased transportation of nutrients and removal of cellular debris.

Also, low-level laser therapy has been reported to have anti-inflammatory effects by stimulating increased lymphatic motility.

Low-level lasers have also been used to treat myofascial trigger-point swelling by activating somatosensory receptors. The major benefit includes reducing localized pain, causing relaxation of trigger-point myofascial band tension.

Please see the full article at <http://physical-therapy.advanceweb.com/Archives/Article-Archives/Power-at-the-Source.aspx>

Please call Skyline Physical Therapy at 402-505-9611 with any questions regarding the use of low-level laser therapy as a treatment option.

Post, Robert E. PT, PhD (2013, February 25). Power at the Source: Laser use in the treatment of pain and inflammation in musculoskeletal conditions, *Advance for Physical Therapy and Rehab Medicine*, (24), 18