

Policy: MP152

Section: Medical Benefit Policy

Subject: Low-Level Laser Therapy

I. Policy: Low-Level Laser Therapy (LLLT) aka: Cold Laser Therapy, low-power laser therapy (LPLT), low intensity laser light therapy and low-energy laser therapy

II. Purpose/Objective:

To provide a policy of coverage regarding Low-Level Laser Therapy (LLLT) aka: Cold Laser Therapy, low-power laser therapy (LPLT), low intensity laser light therapy and low-energy laser therapy

III. Responsibility:

- A. Medical Directors
- B. Medical Management

IV. Required Definitions

1. Attachment – a supporting document that is developed and maintained by the policy writer or department requiring/authoring the policy.
2. Exhibit – a supporting document developed and maintained in a department other than the department requiring/authoring the policy.
3. Devised – the date the policy was implemented.
4. Revised – the date of every revision to the policy, including typographical and grammatical changes.
5. Reviewed – the date documenting the annual review if the policy has no revisions necessary.

V. Additional Definitions

Medical Necessity or Medically Necessary means Covered Services rendered by a Health Care Provider that the Plan determines are:

- a. appropriate for the symptoms and diagnosis or treatment of the Member's condition, illness, disease or injury;
- b. provided for the diagnosis, and the direct care and treatment of the Member's condition, illness disease or injury;
- c. in accordance with current standards of good medical treatment practiced by the general medical community.
- d. not primarily for the convenience of the Member, or the Member's Health Care Provider; and
- e. the most appropriate source or level of service that can safely be provided to the Member. When applied to hospitalization, this further means that the Member requires acute care as an inpatient due to the nature of the services rendered or the Member's condition, and the Member cannot receive safe or adequate care as an outpatient.

Medicaid Business Segment

Medical Necessity shall mean a service or benefit that is compensable under the Medical Assistance Program and if it meets any one of the following standards:

- (i) The service or benefit will, or is reasonably expected to, prevent the onset of an illness, condition or disability.
- (ii) The service or benefit will, or is reasonably expected to, reduce or ameliorate the physical, mental or development effects of an illness, condition, injury or disability.

- (iii) The service or benefit will assist the Member to achieve or maintain maximum functional capacity in performing daily activities, taking into account both the functional capacity of the Member and those functional capacities that are appropriate for members of the same age.

DESCRIPTION: Low Level Laser Therapy (LLLT), also referred to as Cold Laser therapy, low-power laser therapy (LPLT), low intensity laser light therapy, photomodulation, photobiomodulation and low-energy laser therapy, is a light source treatment that generates light of a single wavelength. Instead of producing a thermal effect, it is theorized that LLLT may act by producing photochemical reactions in the cells, referred to as biostimulation or photobiology and has been proposed as an effective treatment option to provide analgesia and promote healing in several clinical conditions including wound healing, arthritis, carpal tunnel syndrome, musculoskeletal and neurological dysfunctions. Cold lasers are defined as low intensity lasers that restrict treatment energies to a few J/cm² and laser powers to 50 mW or less, and induce minimal temperature elevation (0.1 – 0.5° C).

EXCLUSIONS:

The Plan does **NOT** provide coverage for Low Level Laser Therapy as a treatment to promote wound healing or for pain relief in any clinical condition because it is considered **experimental, investigational or unproven**. There is insufficient evidence in the peer-reviewed published medical literature to establish the effectiveness of this treatment on health outcomes when compared to established treatments or technologies

The Plan does **NOT** provide coverage for low intensity light therapy (eg. Dynatron X3 light therapy unit) for any indication because it is considered **experimental, investigational or unproven**. There is insufficient evidence in the peer-reviewed published medical literature to establish the effectiveness of this treatment on health outcomes when compared to established treatments or technologies.

- **For more information, please see MP 142 – Anodyne Infrared Therapy**

The Plan does **NOT** provide coverage for super pulsed laser (eg. TerraQuant LLLT unit) for any indication because it is considered **experimental, investigational or unproven**. There is insufficient evidence in the peer-reviewed published medical literature to establish the effectiveness of this treatment on health outcomes when compared to established treatments or technologies.

The Plan does **NOT** provide coverage for Low Level Laser Therapy as a treatment for addiction because it is considered **experimental, investigational or unproven**. There is insufficient evidence in the peer-reviewed published medical literature to establish the effectiveness of this treatment on health outcomes when compared to established treatments or technologies

Note: A complete description of the process by which a given technology or service is evaluated and determined to be experimental, investigational or unproven is outlined in MP 15 - Experimental Investigational or Unproven Services or Treatment.

CODING ASSOCIATED WITH: Low-Level Laser Therapy (LLLT) aka: Cold Laser Therapy, low-power laser therapy (LPLT), low intensity laser light therapy and low-energy laser therapy

The following codes are included below for informational purposes and may not be all inclusive. Inclusion of a procedure or device code(s) does not constitute or imply coverage nor does it imply or guarantee provider reimbursement. Coverage is determined by the member specific benefit plan document and any applicable laws regarding coverage of specific services. Please note that per Medicare coverage rules, only specific CPT/HCPCS Codes may be covered for the Medicare Business Segment. Please consult the CMS website at www.cms.gov or the local Medicare Administrative Carrier (MAC) for more information on Medicare coverage and coding requirements.

97799 Unlisted physical medicine/rehabilitation service or procedure

S8948 Application of modality(requiring constant provider attendance) to one or more areas, low-level laser, each 15 minutes

0552T Low-level laser therapy, dynamic photonic and dynamic thermokinetic energies, provided by a physician or other qualified health care professional

Current Procedural Terminology (CPT®) © American Medical Association: Chicago, IL

LINE OF BUSINESS:

Eligibility and contract specific benefits, limitations and/or exclusions will apply. Coverage statements found in the line of business specific benefit document will supersede this policy. For Medicare, applicable LCD's and NCD's will supercede this policy. For PA Medicaid Business segment, this policy applies as written.

REFERENCES:

Agency for Healthcare Research and Quality, Evidence Report/Technology Assessment. Number 111.

<http://www.ahrq.gov/clinic/epcsums/woundsum.htm> Accessed 2/7/05.

Lanzafame RJ, Stadler I, Coleman J, et. al. temperature-controlled 830-nm low-level laser therapy of experimental pressure ulcers. *Photomed Laser Surg.* 2004 Dec;22(6):483-488.

Giuliani A, Fernandez M, Farinelli M, et. al. Very low level laser therapy attenuates edema and pain in experimental models. *Int J Tissue React.* 2004;26(1-2):29-37.

Hirschl M, Katzenschlager R, Francesconi C, Kundi M. Low level laser therapy in primary Raynaud's phenomenon – results of a placebo-controlled, double blind intervention study. *J Rheumatol.* 2003 Dec.;31(12):2408-2412.

Winifred S. Hayes, Hayes Inc. Online. Pulsed Monochromatic Light Therapy for Wound Healing. March 2002. Updated 4/6/04.

Brosseau L, Gam A, Harman K, et. al. Low level laser therapy (Classes I,II and III) for treating osteoarthritis. *The Cochrane Library*, Issue 1, 2005.

Brosseau L, Gam A, Harman K, Morin M, Robinson VA, Shea BJ, Tugwell P, Wells G, de Bie RA. Low level laser therapy (Classes I, II and III) for treating rheumatoid arthritis. *The Cochrane Database of Systematic Reviews* 1998, Issue 4. Art. No.: CD002049

Vlassov VV, Pechatnikov LM, MacLehose HG. Low level laser therapy for treating tuberculosis. *The Cochrane Library* Issue 1, 2005.

Washington State Department of Labor and Industry. Technology Assessment. Low Level Laser Therapy (LLLT). May 3, 2004. <http://www.lni.wa.gov/migration/ClaimsInsurance/Files/OMD/LLLTTechAssessMay032004.pdf> Accessed 2/7/05.

Kopera D, Kokol R, Berger C, Haas J. Does the use of low-level laser influence wound healing in chronic venous leg ulcers? *J Wound Care* 2005 Sep;14(8):391-4.

Lucas C, van Gemert MJ, de Haan RJ. Efficacy of low-level laser therapy in the management of stage III decubitus ulcers: a prospective, observer-blinded multicentre randomized clinical trial. *Lasers Med Sci.* 2003;18(2):72-7.

ECRI Institute. Hotline Response (Online). Low level laser therapy for treatment of postmastectomy lymphedema. ECRI Institute. Current as of 05/16/07.

ECRI Institute. Hotline Response (Online). Low-level Laser Therapy for Muscle Pain from Fibromyalgia and Myofascial Pain Syndromes. Updated 5/13/10.

ECRI Institute. Hotline Response (Online). Low-level Laser Therapy for Carpal Tunnel Syndrome. Updated 4/15/10.

ECRI Institute. Hotline Response (Online). Low-level Laser Therapy for Joint Disorders. Updated 4/15/10.

Murphy D. Low Level Laser Therapy. *Practical Pain Management.* October 2007:51-55.

Murphy D. Low Level laser Therapy (LLLT) Part 2. *Practical Pain Management.* November/December 2007:80-84.

Winifred S. Hayes, Hayes Inc Online. Low Level Light Therapy for Joint Pain HAYES, Inc. March 12, 2008

Winifred S. Hayes, Hayes Inc Online. Low Level Light Therapy for Peripheral Neuropathy HAYES, Inc. April 13, 2008

Winifred S. Hayes, Hayes Inc Online. Low Level Light Therapy for Soft Tissue Pain HAYES, Inc. April 28, 2008.

Tchanque-Fossuo CN, Ho D, Dahle SE, et al. A systematic review of low-level light therapy for treatment of diabetic foot ulcer. *Wound Repair Regen.* 2016 Jan 7

Macias DM, Coughlin MJ, Zang K, et al. Low-Level Laser Therapy at 635 nm for Treatment of Chronic Plantar Fasciitis: A Placebo-Controlled, Randomized Study. *J Foot Ankle Surg.* Sep-Oct 2015;54(5):768-772.

Barbosa RI, Fonseca MC, Rodrigues EK, et al. Efficacy of low-level laser therapy associated to orthoses for patients with carpal tunnel syndrome: A randomized single-blinded controlled trial. *J Back Musculoskelet Rehabil.* Sep 25 2015.

Bayer S, Kazancioglu HO, Acar AH, et al. Comparison of laser and ozone treatments on oral mucositis in an experimental model. *Lasers Med Sci.* 2017 Feb 11

Al-Maweri SA, Javed F, Kalakonda B, et al. Efficacy of low level laser therapy in the treatment of burning mouth syndrome: A systematic review. *Photodiagnosis Photodyn Ther.* 2016 Dec 2

Machado RS, Viana S, Sbruzzi G. Low-level laser therapy in the treatment of pressure ulcers: Systematic review. *Lasers Med Sci.* 2017 Jan 23

Manchini MT, Antônio EL, Silva Junior JA, et al. Low-level laser application in the early myocardial infarction stage has no beneficial role in heart failure. *Front Physiol.* 2017;8:23.

Gupta AK, Foley KA. A critical assessment of the evidence for low-level laser therapy in the treatment of hair loss. *Dermatol Surg.* 2017;43(2):188-197.

Afifi L, Maranda EL, Zarei M, et al. Low-level laser therapy as a treatment for androgenetic alopecia. *Lasers Surg Med.* 2017;49(1):27-39

Centers for Medicare & Medicaid Services. Decision Memo for Infrared Therapy Devices (CAG-00291N)

Akram Z, Abduljabbar T, Vohra F, Javed F. Efficacy of low-level laser therapy compared to steroid therapy in the treatment of oral lichen planus: A systematic review. *J Oral Pathol Med.* 2018 Jan;47(1):11-17.

Darwin E, Heyes A, Hirt PA, et al. Low-level laser therapy for the treatment of androgenic alopecia: A review. *Lasers Med Sci.* 2018;33(2):425-434.

Brassolatti P, de Andrade ALM, Bossini PS, et al. Evaluation of the low-level laser therapy application parameters for skin burn treatment in experimental model: A systematic review. *Lasers Med Sci.* 2018;33(5):1159-1169.

Liu KH, Liu D, Chen YT, Chin SY. Comparative effectiveness of low-level laser therapy for adult androgenic alopecia: A system review and meta-analysis of randomized controlled trials. *Lasers Med Sci.* 2019;34(6):1063-1069

This policy will be revised as necessary and reviewed no less than annually.

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Reviewed: 3/06; 6/09; 6/10; 6/11, 6/12, 6/13, 6/14, 6/15, 6/16, 5/17; 5/18, 5/19, 5/20

Geisinger Health Plan may refer collectively to health care coverage sponsors Geisinger Health Plan, Geisinger Quality Options, Inc., and Geisinger Indemnity Insurance Company, unless otherwise noted. Geisinger Health Plan is part of Geisinger, an integrated health care delivery and coverage organization.