

**EFFECTIVE DATE:** 09 | 06 | 2016

**POLICY LAST UPDATED:** 07 | 21 | 2015

## OVERVIEW

The medical policy documents the coverage determination for Monochromatic Infrared Energy (MIRE). MIRE devices have been investigated as a treatment of multiple conditions including cutaneous ulcers, diabetic neuropathy, musculoskeletal and soft tissue injuries, including temporomandibular disorders, tendonitis, capsulitis, and myofascial pain.

## MEDICAL CRITERIA

Not applicable

## PRIOR AUTHORIZATION

Not applicable

## POLICY STATEMENT

### BlueCHiP for Medicare and Commercial Products

Skin contact monochromatic infrared energy is considered **not medically necessary** as a technique to treat cutaneous ulcers, diabetic neuropathy, and musculoskeletal conditions and any other conditions including, but not limited to, temporomandibular disorders, tendonitis, capsulitis, and myofascial pain. There are insufficient peer reviewed, scientifically controlled studies in the literature that demonstrate superior health outcomes over other techniques.

## COVERAGE

Benefits may vary between groups/contracts. Please refer to the appropriate Evidence of Coverage, Subscriber Agreement, or Benefit Booklet for limitations of benefits/coverage when services are not medically necessary.

## BACKGROUND

MIRE refers to light at a wavelength of 880 nm. MIRE can be delivered through pads containing an array of 60 superluminous infrared diodes emitting pulsed near-infrared irradiation. The pads can be placed on the skin, and the infrared energy is delivered in a homogeneous manner in a session lasting from 30 to 45 minutes. MIRE devices have been investigated as a treatment of multiple conditions including cutaneous ulcers, diabetic neuropathy, musculoskeletal, and soft tissue injuries, including temporomandibular disorders, tendonitis, capsulitis, and myofascial pain. MIRE devices are also being developed for the treatment of baldness and snoring. The proposed mechanism of action is not known, although some sort of photobiostimulation has been proposed, as well as increased circulation related to an increase in plasma of the potent vasodilator nitric oxide.

## Regulatory Status

The Anodyne Professional Therapy System is a MIRE device that received marketing clearance from the U.S. Food and Drug Administration (FDA) in 1994 through the 510(k) process. A device specifically for home use is also available. The labeled indication is for “increasing circulation and decreasing pain.” MIRE devices have been investigated as a treatment of multiple conditions including cutaneous ulcers, diabetic neuropathy, musculoskeletal and soft tissue injuries, including temporomandibular disorders, tendonitis, capsulitis, and myofascial pain. The proposed mechanism of action is not known, although some sort of photobiostimulation has been proposed, as well as increased circulation related to an increase in plasma of the potent vasodilator nitric oxide. The Clarimedix system (Clarimedix), received 510(k) clearance in 2006

(K062635) listing the SMI™ SpectroPad (a.k.a. Anodyne Therapy System) as a predicate device. Clarimedix is indicated for use for the treatment of chronic pain by emitting energy in the infrared spectrum for the temporary relief of minor muscle and joint pain, arthritis and muscle spasm; relieving stiffness; promoting relaxation of muscle tissue; and to temporarily increase local blood circulation where applied. The HealthLight™ infrared therapy device (Bioremedi Therapeutic Systems) received marketing clearance from the FDA in 2011(K101894) listing the SMI SpectroPad as a predicate device. The Bioremedi HealthLight System is available by prescription only and is indicated for heat therapy, i.e., temporarily relieves minor pain, stiffness, and muscle spasm and temporarily increases local blood circulation.

The available literature regarding skin contact MIRE as a technique to treat cutaneous conditions is inadequate to draw clinical conclusions. The evidence does not support the efficacy of this technology.

## **CODING**

### **BlueCHiP for Medicare and Commercial Products**

The following HCPCS codes are considered not medically necessary for the diagnosis codes indicated:

**E0221      A4639**

### **ICD-10 Codes:**



ICD-10 Codes Skin  
Contact Monochroma

## **RELATED POLICIES**

None

## **PUBLISHED**

Provider Update, November 2016  
Provider Update, August 2015  
Provider Update, June 2014  
Provider Update, January 2013  
Provider Update, February 2012  
Provider Update, December 2010  
Provider Update, October 2009  
Policy Update, October 2008

## **REFERENCES**

1. Li H, Nyland J, Shelton T. Effectiveness of the anodyne therapy system in treating diabetic peripheral neuropathy: a systematic review. *Physical Therapy Reviews* 2008; 13(6):395-404.
2. Ites KI, Anderson EJ, Cahill ML et al. Balance interventions for diabetic peripheral neuropathy: a systematic review. *J Geriatr Phys Ther* 2011; 34(3):109-16.
3. Lavery LA, Murdoch DP, Williams J et al. Does anodyne light therapy improve peripheral neuropathy in diabetes? A double-blind, sham-controlled, randomized trial to evaluate monochromatic infrared photoenergy. *Diabetes Care* 2008; 31(2):316-21.
4. Clifft JK, Kasser RJ, Newton TS et al. The effect of monochromatic infrared energy on sensation in patients with diabetic peripheral neuropathy: a double-blind, placebo-controlled study. *Diabetes Care* 2005; 28(12):2896-900.

5. Nawfar SA, Yacob NB. Effects of monochromatic infrared energy therapy on diabetic feet with peripheral sensory neuropathy: a randomized controlled trial. *Singapore Med J* 2011; 52(9):669-72.
6. Franzen-Korzendorfer H, Blackinton M, Rone-Adams S et al. The effect of monochromatic infrared energy on transcutaneous oxygen measurements and protective sensation: results of a controlled, double-blind, randomized clinical study. *Ostomy Wound Manage* 2008; 54(6):16-31.
7. Leonard DR, Farooqi MH, Myers S. Restoration of sensation, reduced pain and improved balance in subjects with diabetic peripheral neuropathy: a double-blind, randomized, placebo-controlled study with monochromatic near-infrared treatment. *Diabetes Care* 2004; 27(1):168-72.
8. DeLellis SL, Carnegie DH, Burke TJ. Improved sensitivity in patients with peripheral neuropathy: effects of monochromatic infrared photo energy. *J Am Podiatr Med Assoc* 2005; 95(2):143-7.
9. Powell MW, Carnegie DE, Burke TJ. Reversal of diabetic peripheral neuropathy and new wound incidence: the role of MIRE. *Adv Skin Wound Care* 2004; 17(6):295-300.
10. Hsieh RL, Lo MT, Lee WC et al. Therapeutic effects of short-term monochromatic infrared energy therapy on patients with knee osteoarthritis: a double-blind, randomized, placebo-controlled study. *J Orthop Sports Phys Ther* 2012; 42(11):947-56. .
11. CMS.gov Centers for Medicare and Medicaid Services National Coverage Determination (NCD) for Infrared Therapy Devices (270.6)  
<https://www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?NCDId=315&ncdver=1&bc=AgAAgAAAAAAAAAA%3d%3d&>

CLICK THE ENVELOPE ICON BELOW TO SUBMIT COMMENTS

This medical policy is made available to you for informational purposes only. It is not a guarantee of payment or a substitute for your medical judgment in the treatment of your patients. Benefits and eligibility are determined by the member's subscriber agreement or member certificate and/or the employer agreement, and those documents will supersede the provisions of this medical policy. For information on member-specific benefits, call the provider call center. If you provide services to a member which are determined to not be medically necessary (or in some cases medically necessary services which are non-covered benefits), you may not charge the member for the services unless you have informed the member and they have agreed in writing in advance to continue with the treatment at their own expense. Please refer to your participation agreement(s) for the applicable provisions. This policy is current at the time of publication; however, medical practices, technology, and knowledge are constantly changing. BCBSRI reserves the right to review and revise this policy for any reason and at any time, with or without notice. Blue Cross & Blue Shield of Rhode Island is an independent licensee of the Blue Cross and Blue Shield Association.

