

## Medical Coverage Policy | Electrical Stimulation and Electromagnetic Therapy for Wound Treatments



**EFFECTIVE DATE:** 10|01|2015

**POLICY LAST UPDATED:** 02|16|2022

### OVERVIEW

Electrical stimulation or electrostimulation (ES) refers to the application of electrical current through electrodes placed directly on the skin. Electromagnetic therapy involves the application of electromagnetic fields rather than direct electrical current. Both are proposed as treatments for wounds, generally chronic wounds.

This policy is applicable to Commercial Products only. For Medicare Advantage Plans, see related policy section.

### MEDICAL CRITERIA

Not applicable

### PRIOR AUTHORIZATION

Not applicable

### POLICY STATEMENT

#### Commercial Products

Electrical stimulation and electromagnetic therapy for the treatment of chronic wounds is considered not medically necessary as the evidence is insufficient to determine the effects of the technology on health outcomes.

### COVERAGE

Benefits may vary between groups and contracts. Please refer to the appropriate Benefit Booklet, Evidence of Coverage, or Subscriber Agreement for applicable not medically benefits/coverage.

### BACKGROUND

The normal wound healing process involves inflammatory, proliferative, and remodeling phases. When the healing process fails to progress properly and the wound persists for longer than 1 month, it may be described as a chronic wound. The types of chronic wounds most frequently addressed in studies of electrical stimulation for wound healing are: 1) pressure ulcers, 2) venous ulcers, 3) arterial ulcers, and 4) diabetic ulcers. Conventional or standard therapy for chronic wounds involves local wound care, as well as systemic measures including debridement of necrotic tissues, wound cleansing, and dressing that promotes a moist wound environment, antibiotics to control infection, and optimizing nutritional supplementation. Not bearing weight is another important component of wound management.

Since the 1950s, investigators have used electrical stimulation as a technique to promote wound healing, based on the theory that electrical stimulation may:

- Increase adenosine 5'-triphosphate (ATP) concentration in the skin
- Increase DNA synthesis
- Attract epithelial cells and fibroblasts to wound sites
- Accelerate the recovery of damaged neural tissue
- Reduce edema
- Increase blood flow
- Inhibit pathogenesis

Electrical stimulation refers to the application of electrical current through electrodes placed directly on the skin in close proximity to the wound. The types of electrical stimulation and devices can be categorized into 4 groups based on the type of current: 1) low-intensity direct current (LIDC), 2) high-voltage pulsed current (HVPC), 3) alternating current (AC), and 4) transcutaneous electrical nerve stimulation (TENS). Electromagnetic therapy is a related but distinct form of treatment that involves the application of electromagnetic fields rather than direct electrical current.

Currently, no electrical stimulation or electromagnetic therapy devices have received approval from the U.S. Food and Drug Administration (FDA), specifically for the treatment of wound healing. A number of devices have been cleared for marketing for other indications. Use of these devices for wound healing is an off-label indication.

There is insufficient evidence from well-designed randomized controlled trials (RCTs) that electrostimulation or electromagnetic stimulation improves health outcomes for wound care patients beyond that provided by standard treatment. Some small RCTs on electrostimulation have reported improvements in some intermediate outcomes, such as decrease in wound size and/or the velocity of wound healing. However, these studies have not demonstrated consistent improvements on the more important clinical outcomes of complete healing and the time to complete healing. For electromagnetic therapy, there is a lack of high-quality RCTs. Therefore, these treatments are considered not medically necessary for the treatment of wounds as the evidence is insufficient to determine the effects of the technology on health outcomes.

## **CODING**

### **Commercial Products**

The following code(s) are not medically necessary:

- G0281** Electrical stimulation (unattended\*) to one or more areas for chronic Stage III and Stage IV pressure ulcers, arterial ulcers, diabetic ulcers, and venous stasis ulcers not demonstrating measurable signs of healing after 30 days of conventional care, as part of a therapy plan of care
- G0282** Electrical stimulation (unattended), to one or more areas, for wound care other than described in G0281.
- G0295** Electromagnetic therapy, to one or more areas, for wound care other than described in G0329 or for other uses.
- G0329** Electromagnetic therapy to one or more areas for chronic stage III and stage IV pressure ulcers, arterial ulcers, diabetic ulcers and venous stasis ulcers not demonstrating measurable signs of healing after 30 days of conventional care, as part of a therapy plan of care

The following code(s) are not separately reimbursed:

- E0761** Non-thermal pulsed high frequency radiowaves, high peak power electromagnetic energy treatment device.
- E0769** Electrical stimulation or electromagnetic wound treatment device not otherwise classified.

## **RELATED POLICIES**

Medicare Advantage Plans National and Local Coverage Determinations  
Non-Reimbursable Health Service Codes

## **PUBLISHED**

Provider Update, April 2022  
Provider Update, March 2021  
Provider Update, April 2020  
Provider Update, June 2019  
Provider Update, September 2018

## REFERENCES

1. Barnes R, Shahin Y, Gohil R, et al. Electrical stimulation vs. standard care for chronic ulcer healing: a systematic review and meta-analysis of randomised controlled trials. *Eur J Clin Invest.* Apr 2014;44(4):429-440. PMID 24456185
2. Franek A, Kostur R, Polak A, et al. Using high-voltage electrical stimulation in the treatment of recalcitrant pressure ulcers: results of a randomized, controlled clinical study. *Ostomy Wound Manage.* Mar 2012;58(3):30-44. PMID 22391955
3. Houghton PE, Campbell KE, Fraser CH, et al. Electrical stimulation therapy increases rate of healing of pressure ulcers in community-dwelling people with spinal cord injury. *Arch Phys Med Rehabil.* 2010;91(5):669-678.
4. Kawasaki L, Mushahwar VK, Ho C, et al. The mechanisms and evidence of efficacy of electrical stimulation for healing of pressure ulcer: a systematic review. *Wound Repair Regen.* Mar-Apr 2014;22(2):161-173. PMID 24372691
5. Lala D, Spaulding SJ, Burke SM, et al. Electrical stimulation therapy for the treatment of pressure ulcers in individuals with spinal cord injury: a systematic review and meta-analysis. *Int Wound J.* Apr 13 2015. PMID 25869151
6. Liu LQ, Moody J, Traynor M, et al. A systematic review of electrical stimulation for pressure ulcer prevention and treatment in people with spinal cord injuries. *J Spinal Cord Med.* Nov 2014;37(6):703-718. PMID 24969965
7. Thakral G, La Fontaine J, Kim P, et al. Treatment options for venous leg ulcers: effectiveness of vascular surgery, bioengineered tissue, and electrical stimulation. *Adv Skin Wound Care.* Apr 2015;28(4):164-172. PMID 25775200
8. Aziz Z, Flemming K. Electromagnetic therapy for treating pressure ulcers. *Cochrane Database Syst Rev.* 2012;12:CD002930. PMID 23235593
9. Aziz Z, Cullum N. Electromagnetic therapy for treating venous leg ulcers. *Cochrane Database Syst Rev.* Jul 2 2015;7:CD002933. PMID 26134172
10. Qaseem A, Humphrey LL, Forcica MA, et al. Treatment of pressure ulcers: a clinical practice guideline from the American College of Physicians. *Ann Intern Med.* Mar 3 2015;162(5):370-379. PMID 25732279
11. Association for the Advancement of Wound Care guideline of pressure ulcer guidelines. 2010; <http://www.guideline.gov/content.aspx?id=24361&search=aawc+guideline+pressure+ulcers>. Accessed 12. December 6, 2015.
13. Wound O, and Continence Nurses Society (WOCN),. Guideline for prevention and management of pressure ulcers. 2015. Available at: <http://www.guideline.gov/content.aspx?id=23868>. Accessed December 6.
14. CMS Manual System. Pub. 100-43 Medicare National Coverage Determinations. 2004; 2015. Available at: [www.cms.hhs.gov](http://www.cms.hhs.gov). Accessed December 6.

**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.

