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MEDICAL POLICY – 2.01.57

Electrostimulation and Electromagnetic Therapy for Treating Wounds

BCBSA Ref. Policy: 2.01.57

Effective Date:	April 1, 2025
Last Revised:	March 10, 2025
Replaces:	N/A

RELATED MEDICAL POLICIES:

1.01.507 Electrical Stimulation Devices

2.01.543 Recombinant and Autologous Platelet-Derived Growth Factors for Wound Healing and Other Non-Orthopedic Conditions

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Introduction

A chronic wound is a wound that does not heal for a long time, usually several weeks. Using electrical current has been proposed as one way to try to heal chronic wounds. The electricity can be delivered through patches attached to the skin (electrodes) or through electromagnetic fields. Studies on wound healing with electrodes have not analyzed whether complete healing occurs. And there are only a few small studies about electromagnetic fields and wound healing. Because there is not enough high-quality scientific data about these techniques, they are considered investigational (unproven).

Note: The Introduction section is for your general knowledge and is not to be taken as policy coverage criteria. The rest of the policy uses specific words and concepts familiar to medical professionals. It is intended for providers. A provider can be a person, such as a doctor, nurse, psychologist, or dentist. A provider also can be a place where medical care is given, like a hospital, clinic, or lab. This policy informs them about when a service may be covered.

Policy Coverage Criteria

Service	Investigational
Electrical stimulation	**Electrical stimulation for the treatment of wounds, including but not limited to, low-intensity direct current, high-voltage pulsed current, alternating current, and transcutaneous electrical nerve stimulation, is considered investigational.** **Electrical stimulation performed by individuals in the home setting for the treatment of wounds is considered investigational.**
Electromagnetic therapy	**Electromagnetic therapy for the treatment of wounds is considered investigational.**

Coding

Code	Description
HCPCS	
E0761	Non-thermal pulsed high frequency radio waves, high peak power electromagnetic energy treatment device
E0769	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
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 or 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

Note: CPT codes, descriptions and materials are copyrighted by the American Medical Association (AMA). HCPCS codes, descriptions and materials are copyrighted by Centers for Medicare Services (CMS).

Related Information

N/A

Evidence Review

Description

Electrostimulation (electrical stimulation) 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 to help wounds heal, generally chronic wounds.

Background

Chronic Wounds

The normal wound healing process involves inflammatory, proliferative, and remodeling phases. When the healing process fails to progress properly, and the wound persists for more than one month, it may be described as a chronic wound. The types of chronic wounds most frequently addressed in studies that examine the use of electrical stimulation for wound healing are (1) pressure ulcers, (2) venous ulcers, (3) arterial ulcers, and (4) diabetic ulcers.

Standard Treatment

Conventional or standard therapy for chronic wounds involves local wound care, as well as systemic measures including debridement of necrotic tissues, wound cleansing, dressings that promote a moist wound environment, antibiotics to control infection, and optimizing nutritional supplementation. Avoidance of weight bearing is another important component of wound management.

Electrostimulation

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

- Increase adenosine 5'-triphosphate 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 near the wound. The types of electrical stimulation and devices can be categorized into groups based on the type of current used. This includes low-intensity direct current, high voltage pulsed current, alternating current, and transcutaneous electrical nerve stimulation.

Electromagnetic Therapy

Electromagnetic therapy is a related but distinct form of treatment that involves the application of electromagnetic fields, rather than direct electrical current.

Summary of Evidence

For individuals who have any wound type (acute or nonhealing) who receive electrostimulation, the evidence includes systematic reviews and randomized controlled trials (RCTs). The relevant outcomes are symptoms, change in health status, morbid events, quality of life, and treatment-related morbidity. Systematic reviews of RCTs on electrical stimulation have reported improvements in some outcomes, mainly intermediate outcomes such as a decrease in wound size and/or the speed of wound healing. There are few analyses of the more important clinical

outcomes of complete healing and the time to complete healing, and many of the trials are of relatively low quality. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have any wound type (acute or nonhealing) who receive electromagnetic therapy, the evidence includes two systematic reviews of RCTs (one on pressure ulcers and the other on leg ulcers) and an RCT of electromagnetic treatment following Cesarean section. The relevant outcomes are symptoms, change in health status, morbid events, quality of life, and treatment-related morbidity. The systematic reviews identified a few RCTs with small sample sizes that do not permit drawing definitive conclusions. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

Ongoing and Unpublished Clinical Trials

A search of **ClinicalTrials.gov** in November 2024 did not identify any ongoing or unpublished trials that would likely influence this review.

Practice Guidelines and Position Statements

The purpose of the following information is to provide reference material. Inclusion does not imply endorsement or alignment with the policy conclusions.

Guidelines or position statements will be considered for inclusion if they were issued by, or jointly by, a US professional society, an international society with US representation, or National Institute for Health and Care Excellence (NICE). Priority will be given to guidelines that are informed by a systematic review, include strength of evidence ratings, and include a description of management of conflict of interest.

American College of Physicians

In 2015, the American College of Physicians (ACP) published guidelines on the treatment of pressure ulcers.[15] The guidelines recommended that electrostimulation be used as adjunctive treatment in inviduals with pressure ulcers. This was considered by the College to be a weak recommendation, based on moderate-quality evidence. This guideline is listed as "inactive" on the ACP website.[16]

Association for the Advancement of Wound Care

In 2014, the Association for the Advancement of Wound Care (AAWC) published guidelines on the care of venous ulcers and pressure ulcers.[17] Guidelines for venous ulcer care include electrostimulation and electromagnetic stimulation as treatment modalities. Guidelines for pressure ulcer care include electrical stimulation as adjunctive interventions when pressure ulcers do not respond to the first line of treatment.

Previously, the AAWC (2010) published guidelines on the care of pressure ulcers.[18] Electrostimulation was included as a potential second-line intervention if first-line treatments did not result in wound healing.

Wound, Ostomy, and Continence Nurses Society

In 2016, the Wound, Ostomy and Continence Nurses Society published guidelines on prevention and management of pressure ulcers.[19] The guidelines stated that electrical stimulation can be considered as adjunctive treatment and rated the evidence as level A.

In 2024, the Wound, Ostomy and Continence Nurses Society published guidelines on the management of wounds in patients with lower extremity arterial disease.[20] They recommend electrotherapy/electrostimulation as an adjunct to increase perfusion and walking capacity, but the level of evidence was rated as B (at least 1 RCT or 2 nonrandomized trials) and the quality of evidence as low.

Medicare National Coverage

National Medicare Coverage of electrostimulation and electromagnetic stimulation is limited to chronic stage III or stage IV pressure ulcers, arterial ulcers, diabetic ulcers, and venous stasis ulcers.[21]

Effective 2004, Medicare's national coverage decision is as follows:

- Electrostimulation and electromagnetic therapy will not be covered as an initial treatment modality.

- Continued treatment with electrostimulation and electromagnetic therapy is not covered if measurable signs of healing have not been demonstrated within any 30-day period of treatment.
- Unsupervised use of electrostimulation or electromagnetic therapy is not covered.

All other uses of electrostimulation and electromagnetic therapy not otherwise specified for the treatment of wounds remain at local Medicare Administrative Contractor discretion.

Regulatory Status

No electrostimulation or electromagnetic therapy devices have received approval from the US 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 off-label.

References

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History

Date	Comments
10/16/03	Add to Medicine Section - New Policy
06/14/05	Replace policy - Policy updated; policy statement on electrical stimulation of wounds changed from medically necessary to investigational. Hold for notification; publish 11/1/05.
07/11/06	Replace policy - Literature review updated; references added; policy statement unchanged.
07/10/07	Replace policy - Policy updated with literature review; policy statement unchanged.

Date	Comments
06/10/08	Replace policy - Policy updated with literature search; no change to the policy statement. References added.
12/08/09	Replace policy - Policy updated with literature search; no change to the policy statement. Reference added.
12/14/10	Replace policy - Policy updated with literature review; no other changes to policy statements; Rationale rewritten; reference numbers 4-6 added.
12/16/11	Replace policy – Policy updated with Policy updated with literature review; policy statements unchanged. References 6-8 added; other references renumbered or removed.
01/11/12	Codes 0299T and 0300T added.
03/22/12	Minor update, Related Policies updated with 1.01.13.
09/12/12	Related policy update – Remove 1.01.16 as it was archived; ICD-10 codes are now effective 10/01/2014.
12/19/12	Replace policy. Policy title changed with deletion of the word "chronic." HCPCS codes sorted alphabetically under policy guidelines. Rationale revised based on a literature review through August 2012. References 3 and 8 added; other references renumbered or removed. Policy statements unchanged.
12/09/13	Replace policy. Policy updated with literature review through September 5, 2013; policy statements unchanged. References 4 and 5 added; other references renumbered or removed. The first policy statement was edited to clarify the intent. CPT codes 97032 and 0299T & 0300T removed from the policy, they are not specific to or do not apply to this policy, respectively.
11/20/14	Annual Review. Policy updated with literature review through August 4, 2014. References 3-4, 7, 12 added; others renumbered/removed. Policy statements unchanged. ICD-9 and ICD-10 diagnosis codes removed; they do not relate to adjudication.
11/10/15	Annual Review. Policy updated with literature review through August 3, 2015; references 6, 8-9, and 11 added. Policy statements unchanged.
04/01/16	Annual Review, approved March 8, 2016. Policy updated with literature review through December 6, 2015; no references added. Policy statements unchanged.
11/01/17	Annual Review, approved October 19, 2017. Policy updated with literature review through July 21, 2017; reference 12 added; notes 14-15 updated. Policy statements unchanged.
04/01/18	Archive policy, approved March 13, 2018, effective April 1, 2018, due to low utilization. Policy updated with literature review through November 2017; references 9-10 and 13 added; note 18 updated.
04/01/20	New policy, approved March 10, 2020, effective for dates of service on or after July 2, 2020, following 90-day provider notification. This policy was previously archived in

Date	Comments
	2018 but is now being reinstated. Policy created with literature review through November 2019. Electrical stimulation and electromagnetic therapy for the treatment of wounds is considered investigational.
04/01/21	Annual Review, approved March 2, 2021. Policy updated with literature review through November 18, 2020; referenced added. Policy statements unchanged.
04/01/22	Annual Review, approved March 7, 2022. Policy updated with literature review through November 10, 2021; no references added. Policy statements unchanged.
04/01/23	Annual Review, approved March 6, 2023. Policy updated with literature review through November 30, 2022; references added. Minor editorial refinements to policy statements; intent unchanged. Changed the wording from "patient" to "individual" throughout the policy for standardization.
03/01/24	Annual Review, approved February 26, 2024. Policy updated with literature review through November 22, 2023; references added. Policy statements unchanged.
01/01/25	Minor update to related policy. 2.01.16 was replaced with 2.01.543 Recombinant and Autologous Platelet-Derived Growth Factors for Wound Healing and Other Non-Orthopedic Conditions.
04/01/25	Annual Review, approved March 10, 2025. Policy updated with literature review through November 22, 2024; reference added. Policy statements unchanged.

Scope: Medical policies are systematically developed guidelines that serve as a resource for Company staff when determining coverage for specific medical procedures, drugs or devices. Coverage for medical services is subject to the limits and conditions of the member benefit plan. Members and their providers should consult the member benefit booklet or contact a customer service representative to determine whether there are any benefit limitations applicable to this service or supply. This medical policy does not apply to Medicare Advantage.