PREMERA | BLUE CROSS

An Independent Licensee of the Blue Cross Blue Shield Association

MEDICAL POLICY – 1.01.24

Interferential Current Stimulation

BCBSA Ref. Policy:	1.01.24	
Effective Date:	Aug. 1, 2024	RELATED MEDICAL POLICIES:
Last Revised:	July 22, 2024	1.01.507 Electrical Stimulation Devices
Replaces:	N/A	7.01.588 Percutaneous Electrical Nerve Stimulation and Percutaneous Neuromodulation Therapy

Select a hyperlink below to be directed to that section.

POLICY CRITERIA | CODING
RELATED INFORMATION | EVIDENCE REVIEW | REFERENCES | HISTORY

∞ Clicking this icon returns you to the hyperlinks menu above.

Introduction

Interferential current stimulation is a type of electrical stimulation that is proposed to reduce musculoskeletal pain, treat stomach disorders such as constipation, irritable bowel syndrome, or heartburn, and post-stroke muscle stiffness (spasticity). Paired electrodes are placed superficially on the skin around the affected area. The electrodes carry alternating high frequency and medium frequency currents. It is believed that this type of stimulation penetrates the tissues more easily and with less unwanted stimulation of nerves to the skin, making it more comfortable than transcutaneous electrical nerve stimulation (TENS). Interferential current stimulation can also deliver higher currents than TENS (another type of electrical stimulation). However, it is considered investigational (unproven). There is not enough evidence to show that it is effective.

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

Treatment	Investigational
Interferential current stimulation	**Interferential current stimulation is considered investigational.**

Coding

Code	Description
HCPCS	
S8130	Interferential current stimulator, 2 channel
S8131	Interferential current stimulator, 4 channel

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

Interferential current stimulation (IFS) is a type of electrical stimulation used to reduce pain. The technique has been proposed to decrease pain and increase function in individuals with osteoarthritis and to treat other conditions such as constipation, irritable bowel syndrome, dyspepsia, and spasticity.

Background

Interferential current stimulation (IFS) is a type of electrical stimulation that has been investigated as a technique to reduce pain, improve function and range of motion, and treat gastrointestinal disorders.

IFS uses paired electrodes of two independent circuits carrying high-frequency and medium-frequency alternating currents. The superficial electrodes are aligned on the skin around the affected area. It is believed that IFS permeates the tissues more effectively and with less unwanted stimulation of cutaneous nerves and is more comfortable than transcutaneous electrical nerve stimulation. There are no standardized protocols for the use of IFS; IFS may vary by the frequency of stimulation, the pulse duration, treatment time, and electrode-placement technique.

Summary of Evidence

For individuals who have musculoskeletal conditions who receive IFS, the evidence includes randomized controlled trials (RCTs) and meta-analyses. Relevant outcomes are symptoms, functional outcomes, quality of life, medication use, and treatment-related morbidity. Placebo-controlled randomized trial(s) have found that IFS when used to treat musculoskeletal pain and impaired function(s), does not significantly improve outcomes. Meta-analyses for IFS in musculoskeletal conditions have generally found IFS to be no more effective than other therapies. One network meta-analysis did find improvement with IFS compared with control, but the analysis is limited by indirect comparisons. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have gastrointestinal disorders who receive IFS, the evidence includes RCTs. Relevant outcomes are symptoms, functional outcomes, quality of life, medication use, and treatment-related morbidity. IFS has been tested for a variety of gastrointestinal conditions, with a small number of trials completed for each condition. The results of the trials are mixed, with some reporting benefit and others not. This body of evidence is inconclusive on whether IFS is an efficacious treatment for gastrointestinal conditions. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have poststroke spasticity who receive IFS, the evidence includes RCTs. Relevant outcomes are symptoms, functional outcomes, quality of life, and treatment-related morbidity. The RCTs had small sample sizes and very short follow-up (immediately

posttreatment to 5 weeks). 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 April 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 Occupational and Environmental Medicine

The American College of Occupational and Environmental Medicine published several relevant guidelines. For shoulder disorders, guidelines found the evidence on IFS to be insufficient and, depending on the specific disorder, either did not recommend IFS or were neutral on whether to recommend it.[16] For low back disorders, guidelines found the evidence on IFS to be insufficient and did not recommend it.[17] For knee disorders, guidelines recommended IFS for postoperative anterior cruciate ligament reconstruction, meniscectomy, and knee chondroplasty immediately postoperatively in the elderly.[18] This was a level C recommendation.

American College of Physicians and the American Pain Society

In 2009, the clinical practice guidelines from the American College of Physicians and the American Pain Society concluded that there was insufficient evidence to recommend interferential current stimulation (IFS) for the treatment of low back pain.[19] An update of these

guidelines by the American College of Physicians (2017) confirmed the 2009 findings that there was insufficient evidence to determine the effectiveness of interferential current stimulation (IFS) for the treatment of low back pain.[20]

National Institute for Health and Care Excellence

In 2016, the National Institute for Health and Care Excellence published a guideline (NG59) on assessment and management of low back pain and sciatica in people aged 16 and over.[3] The guideline states "Do not offer interferential therapy for managing low back pain with or without sciatica".

Medicare National Coverage

There is no national coverage determination.

Regulatory Status

A number of IFS devices have been cleared for marketing by the US Food and Drug Administration through the 510(k) process, including the Medstar 100 (MedNet Services) and the RS-4i (RS Medical). IFS may be included in multimodal electrotherapy devices such as transcutaneous electrical nerve stimulation and functional electrostimulation.

References

1. Hussein HM, Alshammari RS, Al-Barak SS, et al. A Systematic Review and Meta-analysis Investigating the Pain-Relieving Effect of Interferential Current on Musculoskeletal Pain. Am J Phys Med Rehabil. Jul 01 2022; 101(7): 624-633. PMID 34469914

2. Zeng C, Li H, Yang T, et al. Electrical stimulation for pain relief in knee osteoarthritis: systematic review and network meta-analysis. Osteoarthritis Cartilage. Feb 2015; 23(2): 189-202. PMID 25497083

3. National Institute for Health and Care Excellence (NICE). Low back pain and sciatica in over 16s: assessment and management [NG59]. 2016; **https://www.nice.org.uk/guidance/ng59**. Accessed July 8, 2024.

4. Fuentes JP, Armijo Olivo S, Magee DJ, et al. Effectiveness of interferential current therapy in the management of musculoskeletal pain: a systematic review and meta-analysis. Phys Ther. Sep 2010; 90(9): 1219-38. PMID 20651012

5. Kadı MR, Hepgüler S, Atamaz FC, et al. Is interferential current effective in the management of pain, range of motion, and edema following total knee arthroplasty surgery? A randomized double-blind controlled trial. Clin Rehabil. Jun 2019; 33(6): 1027-1034. PMID 30764635

6. Alqualo-Costa R, Rampazo ÉP, Thome GR, et al. Interferential current and photobiomodulation in knee osteoarthritis: A randomized, placebo-controlled, double-blind clinical trial. Clin Rehabil. Oct 2021; 35(10): 1413-1427. PMID 33896234

7. Artuç ŞE, Uçkun AÇ, Sivas FA, et al. Comparison of the effects of transcutaneous electrical nerve stimulation and interferential current therapies in central sensitization in patients with knee osteoarthritis. Korean J Pain. Jul 01 2023; 36(3): 392-403. PMID 37394276

8. Iacona R, Ramage L, Malakounides G. Current State of Neuromodulation for Constipation and Fecal Incontinence in Children: A Systematic Review. Eur J Pediatr Surg. Dec 2019; 29(6): 495-503. PMID 30650450

9. Kajbafzadeh AM, Sharifi-Rad L, Nejat F, et al. Transcutaneous interferential electrical stimulation for management of neurogenic bowel dysfunction in children with myelomeningocele. Int J Colorectal Dis. Apr 2012; 27(4): 453-8. PMID 22065105

10. Clarke MC, Chase JW, Gibb S, et al. Improvement of quality of life in children with slow transit constipation after treatment with transcutaneous electrical stimulation. J Pediatr Surg. Jun 2009; 44(6): 1268-72; discussion 1272. PMID 19524752

11. Moore JS, Gibson PR, Burgell RE. Randomised clinical trial: transabdominal interferential electrical stimulation vs sham stimulation in women with functional constipation. Aliment Pharmacol Ther. Apr 2020; 51(8): 760-769. PMID 32128859

12. Coban Ş, Akbal E, Köklü S, et al. Clinical trial: transcutaneous interferential electrical stimulation in individuals with irritable bowel syndrome - a prospective double-blind randomized study. Digestion. 2012; 86(2): 86-93. PMID 22846190

13. Köklü S, Köklü G, Ozgüçlü E, et al. Clinical trial: interferential electric stimulation in functional dyspepsia patients - a prospective randomized study. Aliment Pharmacol Ther. May 2010; 31(9): 961-8. PMID 20136803

14. Suh HR, Han HC, Cho HY. Immediate therapeutic effect of interferential current therapy on spasticity, balance, and gait function in chronic stroke patients: a randomized control trial. Clin Rehabil. Sep 2014; 28(9): 885-91. PMID 24607801

15. Eslamian F, Farhoudi M, Jahanjoo F, et al. Electrical interferential current stimulation versus electrical acupuncture in management of hemiplegic shoulder pain and disability following ischemic stroke-a randomized clinical trial. Arch Physiother. 2020; 10: 2. PMID 31938571

16. American College of Occupational and Environmental Medicine (ACOEM). Shoulder Disorders Guideline (2016). **https://www.dir.ca.gov/dwc/MTUS/ACOEM_Guidelines/Shoulder-Disorders-Guideline.pdf**. Accessed July 8, 2024.

17. Hegmann KT, Travis R, Andersson GBJ, et al. Non-Invasive and Minimally Invasive Management of Low Back Disorders. J Occup Environ Med. Mar 2020; 62(3): e111-e138. PMID 31977923

18. American College of Occupational and Environmental Medicine (ACOEM). Shoulder disorders. In: Hegmann KT, ed. Occupational medicine practice guidelines. Evaluation and management of common health problems and functional recovery in workers. 3rd ed. Elk Grove Village, IL: ACOEM; 2011:1-297.

19. Chou R, Atlas SJ, Stanos SP, et al. Nonsurgical interventional therapies for low back pain: a review of the evidence for an American Pain Society clinical practice guideline. Spine (Phila Pa 1976). May 01 2009; 34(10): 1078-93. PMID 19363456

20. Qaseem A, Wilt TJ, McLean RM, et al. Noninvasive Treatments for Acute, Subacute, and Chronic Low Back Pain: A Clinical Practice Guideline From the American College of Physicians. Ann Intern Med. Apr 04 2017; 166(7): 514-530. PMID 28192789

History

Date	Comments
08/01/20	New policy, approved July 14, 2020. Interferential current stimulation is considered investigational.
09/01/21	Annual Review, approved August 3, 2021. Policy updated with literature review through May 3, 2021; references added. Policy statement unchanged.
09/01/22	Annual Review, approved August 8, 2022. Policy updated with literature review through April 22, 2022; reference added. Policy statement unchanged.
09/01/23	Annual Review, approved August 7, 2023. Policy updated with literature review through April 19, 2023; no references added. Policy statement unchanged. Changed the wording from "patient" to "individual" throughout the policy for standardization.
10/04/23	Updated related policy. Policy 7.01.29 Percutaneous Electrical Nerve Stimulation and Percutaneous Neuromodulation Therapy was renumbered to 7.01.588 Percutaneous Electrical Nerve Stimulation and Percutaneous Neuromodulation Therapy.
08/01/24	Annual Review, approved July 22, 2024. Policy updated with literature review through April 22, 2024; reference added. Policy statement 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.