



**BlueCross BlueShield
of Alabama**

Name of Blue Advantage Policy:
Interferential Stimulator/Stimulation Devices

Policy #: 073
Category: DME

Latest Review Date: July 2020
Policy Grade: B

BACKGROUND:

Blue Advantage medical policy does not conflict with Local Coverage Determinations (LCDs), Local Medical Review Policies (LMRPs) or National Coverage Determinations (NCDs) or with coverage provisions in Medicare manuals, instructions or operational policy letters. In order to be covered by Blue Advantage the service shall be reasonable and necessary under Title XVIII of the Social Security Act, Section 1862(a)(1)(A). The service is considered reasonable and necessary if it is determined that the service is:

1. *Safe and effective;*
2. *Not experimental or investigational*;*
3. *Appropriate, including duration and frequency that is considered appropriate for the service, in terms of whether it is:*
 - *Furnished in accordance with accepted standards of medical practice for the diagnosis or treatment of the patient's condition or to improve the function of a malformed body member;*
 - *Furnished in a setting appropriate to the patient's medical needs and condition;*
 - *Ordered and furnished by qualified personnel;*
 - *One that meets, but does not exceed, the patient's medical need; and*
 - *At least as beneficial as an existing and available medically appropriate alternative.*

In accordance with Title XVIII of the Social Security Act, Section 1862 (a)(10) cosmetic surgery or expenses incurred in connection with such surgery is not covered except as required for the prompt repair of accidental injury or for improvement of the functioning of a malformed body member.

Routine costs of qualifying clinical trial services with dates of service on or after September 19, 2000 which meet the requirements of the Clinical Trials NCD are considered reasonable and necessary by Medicare. Providers should bill **Original Medicare for covered services that are related to **clinical trials** that meet Medicare requirements (Refer to Medicare National Coverage Determinations Manual, Chapter 1, Section 310 and Medicare Claims Processing Manual Chapter 32, Sections 69.0-69.11).*

POLICY:

Effective for dates of service on or after November 22, 2005:

Blue Advantage will treat the IFS or IFS Sequential Stimulator unit for home use as a non-covered benefit.

Blue Advantage does not approve or deny procedures, services, testing, or equipment for our members. Our decisions concern coverage only. The decision of whether or not to have a certain test, treatment or procedure is one made between the physician and his/her patient. Blue Advantage administers benefits based on the members' contract and medical policies. Physicians should always exercise their best medical judgment in providing the care they feel is most appropriate for their patients. Needed care should not be delayed or refused because of a coverage determination.

DESCRIPTION OF PROCEDURE OR SERVICE:

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 patients with osteoarthritis and to treat other conditions such as constipation, irritable bowel syndrome, dyspepsia, and spasticity.

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 2 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, 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.

KEY POINTS:

The most recent literature was reviewed through April 17, 2020. Following is a summary of the key literature to date.

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 RCTs of IFS for treating musculoskeletal pain and impaired function have mostly found that it does not significantly improve outcomes and a meta-analysis of placebo-controlled trials did not find a significant benefit of IFS for decreasing pain or improving function. The evidence is insufficient to determine the effects of the technology on health outcomes.

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. Trials results 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 the effects of the technology on health outcomes.

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 the effects of the technology on health outcomes.

Practice Guidelines, and Position Statements

American College of Physicians and the American Pain Society

Clinical practice guidelines from the American College of Physicians and the American Pain Society, published in 2009, concluded that there was insufficient evidence to recommend interferential stimulation for the treatment of low back pain. 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.

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. For low back disorders, guidelines found the evidence on IFS to be insufficient and did not recommend it. The sole exception was that IFS could be considered as an option on a limited basis for acute low back pain with or without radicular pain. For knee disorders, guidelines recommended IFS for postoperative anterior cruciate ligament reconstruction, meniscectomy, and knee chondroplasty immediately postoperatively in the elderly. This was a level C recommendation.

National Institute for Health and Care Excellence

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

U.S. Preventive Services Task Force Recommendations

Not applicable

KEY WORDS:

Interferential current therapy (IF), interferential stimulation (IF), interferential stimulator, transcutaneous electrical nerve stimulation (TENS), sequential stimulator, RS-4i Sequential stimulator, Medstar™ 100, RS-4i®

APPROVED BY GOVERNING BODIES:

A number of IFS devices have been cleared for marketing by the U.S. 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.

BENEFIT APPLICATION:

Coverage is subject to member's specific benefits. Group specific policy will supersede this policy when applicable.

CURRENT CODING:**CPT:**

97014	Application of a modality to 1 or more areas; electrical stimulation (unattended)
97032	Application of modality or one or more areas; electrical stimulation (manual), each 15 minutes (attended)

HCPCS:

G0283	Electrical stimulation (unattended, to 1 or more areas for indications other than wound care, as part of a therapy plan of care)
S8130	Interferential current stimulator, 2 channel
S8131	Interferential current stimulator, 4 channel

REFERENCES:

1. Albornoz-Cabello M, Maya-Martin J, Dominguez-Maldonado G, et al. Effect of interferential current therapy on pain perception and disability level in subjects with chronic low back pain: A randomized controlled trial. Clin Rehabil. Mar 14 2016.
2. American College of Occupational and Environmental Medicine. (ACOEM) Chronic pain. Available online at: www.guidelines.gov.
3. American College of Occupational and Environmental Medicine (ACOEM). Shoulder Disorders. Available online at: www.guideline.gov Accessed May 15, 2016.
4. American College of Occupational and Environmental Medicine (ACOEM). Low Back Disorders. Available online at: www.guideline.gov. Accessed May 15, 2016.
5. American College of Occupational and Environmental Medicine (ACOEM). Knee Disorders. Available online at: www.guideline.gov. Accessed May 15, 2016.

6. Atamaz FC, Durmaz B, Baydar M et al. Comparison of the efficacy of transcutaneous electrical nerve stimulation, interferential currents, and shortwave diathermy in knee osteoarthritis: a double-blind, randomized, controlled, multicenter study. *Arch Phys Med Rehabil* 2012; 93(5):748-56.
7. Awbrey, Brian J. Reduction of postoperative knee arthroscopy pain and swelling by patient-controlled interferential therapy. Massachusetts General Hospital, 1994.
8. Chou R, Qaseem A, Snow V, et al. Diagnosis and treatment of low back pain: a joint clinical practice guideline from the American College of Physicians and the American Pain Society. *Ann Intern Medicine* 2007; 147(7): 478-491.
9. 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 1 2009; 34(10):1078-1093.
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* 2009; 44(6):1268-1272; discussion 1272.
11. Coban S, Akbal E, Koklu 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.
12. Correa JB, Costa LO, de Oliveira NT et al. Effects of the carrier frequency of interferential current on pain modulation in patients with chronic nonspecific low back pain: a protocol of a randomized controlled trial. *BMC Musculoskelet Disord* 2013; 14:195.
13. Davis, Samuel. A versatile electrotherapy method—Interferential current therapy. Physical Therapy Products, 1994.
14. Defrin R, Ariel E and Peretz C. Segmental noxious versus innocuous electrical stimulation for chronic pain relief and the effect of fading sensation during treatment. *Pain*, May 2005; 115(1-2): 152-160.
15. Dissanayaka TD, Pallegama RW, Suraweera HJ, et al. Comparison of the effectiveness of transcutaneous electrical nerve stimulation and interferential therapy on the upper trapezius in myofascial pain syndrome: a randomized controlled study. *Am J Phys Med Rehabil*. Mar 4 2016.
16. Excellus Health Plan, Inc. Electrical Stimulation. Medical Policy, March 2002.
17. Facci LM, Nowotny JP, Tormem F et al. Effects of transcutaneous electrical nerve stimulation (TENS) an interferential currents (IFC) in patients with nonspecific chronic low back pain: randomized controlled trial. *Sao Paulo Med J* 2011; 129(4):206-16.
18. 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* 2010; 90(9):1219-38.
19. Gundog M, Atamaz F, Kanyilmaz S, et al. Interferential current therapy in patients with knee osteoarthritis: comparison of the effectiveness of different amplitude-modulated frequencies. *Am J Phys Med Rehabil*. Feb 2012; 91(2):107-113.
20. Hou CR, Tsai LC, Cheng KF et al. Immediate effects of various physical therapeutic modalities on cervical myofascial pain and trigger-point sensitivity. *Arch Phys Med Rehabil* 2002; 83(10):1406-14.
21. Hurley DA, Minder PM, McDonough SM et al. Interferential therapy electrode placement technique in acute low back pain: a preliminary investigation. *Arch Phys Med Rehabil* 2001; 82(4): 485-93.

22. Johnson MI. A single-blind placebo-controlled investigation into the analgesic effects of interferential currents on experimentally induced ischemic pain in healthy subjects. *Clinical Physiology and Functional Imaging*, May 2002; 22(3): 187-96.
23. Johnson MI. An investigation into the analgesic effects of interferential currents and transcutaneous electrical nerve stimulation on experimentally induced ischemic pain in otherwise pain-free volunteers. *Physical Therapy*; March 2003; 83(3): 208-23.
24. 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* 2012; 27(4):453-8.
25. Koca I, Boyaci A, Tutoglu A, et al. Assessment of the effectiveness of interferential current therapy and TENS in the management of carpal tunnel syndrome: a randomized controlled study. *Rheumatol Int*. Apr 12 2014.
26. Koca I, Boyaci A, Tutoglu A, et al. Assessment of the effectiveness of interferential current therapy and TENS in the management of carpal tunnel syndrome: a randomized controlled study. *Rheumatol Int*. Dec 2014; 34(12):1639-1645.
27. Koklu S, Koklu G, Ozguclu E et al. Clinical trial: interferential electric stimulation in functional dyspepsia patients - a prospective randomized study. *Aliment Pharmacol Ther* 2010; 31(9):961-968.
28. Lara-Palomo IC, Aguilar-Ferrandiz ME, Mataran-Penarrocha GA, et al. Short-term effects of interferential current electro-massage in adults with chronic non-specific low back pain: a randomized controlled trial. *Clin Rehabil*. May 2013; 27(5):439-449.
29. Latzanich, Carol M., et al. Interferential current therapy for post-operative pain management. *Contemporary Podiatric Physician*, November 1993.
30. Minder PM. Interferential therapy: Lack of effect upon experimentally induced delayed onset muscle soreness. *Clinical Physiology and Functional Imaging*, September 2002; 22(5): 339-47.
31. Poitras S and Brosseau L. Evidence-informed management of chronic low back pain with transcutaneous electrical nerve stimulation, interferential current, electrical muscle stimulation, ultrasound, and thermotherapy. *Spine J* 2008; 8(1): 226-233.
32. 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):885-891.
33. The Regence Group. *Electrical Stimulation Devices*. Medical Policy, March 2002.
34. Taylor K, Newton RA, Personius WJ et al. Effects of interferential current stimulation for treatment of subjects with recurrent jaw pain. *Phys Ther* 1987; 67(3):346-50.
35. Van der Heijden GJ, Leffers P, Wolters PJ et al. No effect of bipolar interferential electrotherapy and pulsed ultrasound for soft tissue disorders: a randomized controlled trial. *Ann Rheum Dis* 1999; 58(9):530-50.
36. Werners R, Pynsent PB, Bulstrode CJ. Randomized trial comparing interferential therapy with motorized lumbar traction and massage in the management of low back pain in a primary care setting. *Spine* 1999; 24(15):1579-84.
37. Zambito A, Bianchini D, Gatti D, et al. Interferential and horizontal therapies in chronic low back pain due to multiple vertebral fractures: A randomized, double blind, clinical study. *Osteoporos Int* 2007; 18(11): 1541-1545.

38. 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.

POLICY HISTORY:

Adopted for Blue Advantage, October 2005

Available for comment October 8-November 21, 2005

Medical Policy Group, November 2006

Medical Policy Group, November 2008

Medical Policy Group, November 2010

Medical Policy Group, December 2011

Medical Policy Group, March 2012

Medical Policy Group, December 2012

Medical Policy Group, January 2014

Medical Policy Group, January 2015

Medical Policy Group, July 2016

Medical Policy Group, September 2017

Medical Policy Group, December 2017

Medical Policy Group, June 2018

Medical Policy Group, December 2018: 2019 CPT Coding Update

Medical Policy Group, June 2019

Medical Policy Group, July 2020

This medical policy is not an authorization, certification, explanation of benefits, or a contract. Eligibility and benefits are determined on a case-by-case basis according to the terms of the member's plan in effect as of the date services are rendered. All medical policies are based on (i) research of current medical literature and (ii) review of common medical practices in the treatment and diagnosis of disease as of the date hereof. Physicians and other providers are solely responsible for all aspects of medical care and treatment, including the type, quality, and levels of care and treatment.

This policy is intended to be used for adjudication of claims (including pre-admission certification, pre-determinations, and pre-procedure review) in Blue Cross and Blue Shield's administration of plan contracts.