Medical Coverage Policy

Electrical Stimulation for Treatment of Arthritis

☒ Device/Equipment ☐ Drug ☐ Medical ☐ Surgery ☐ Test ☐ Other

Effective Date:	10/19/2006	Policy Last Updated:	5/21/2013

☐ **Prospective review is recommended/required. Please check the member agreement for preauthorization guidelines.**

☒ **Prospective review is not required.**

Description:

Sub-sensory pulsed electrical stimulation is one form of electrical stimulation. Pulsed electrical stimulation using surface electrodes is being evaluated for the treatment of arthritis.

Electrical stimulation has been used to improve functional status and relieve pain related to osteoarthritis and rheumatoid arthritis unresponsive to other standard therapies. Electrical stimulation is provided by an electronic device that non-invasively delivers a low voltage, monophasic electrical field to the target site of pain.

The BioniCare Bio-1000™ stimulator is a device that has received U.S. Food and Drug Administration (FDA) 510(k) marketing clearances to deliver pulsed electrical stimulation for the treatment of osteoarthritis of the knee and rheumatoid arthritis of the hand. The FDA gave the BioniCare Bio-1000™ clearance after finding it to be substantially equivalent to transcutaneous electrical nerve stimulation devices.*

The FDA's 510(k) summaries specify the BioniCare Stimulator, Model Bio-1000™ is indicated for use as an adjunctive therapy in reducing the level of pain and:

- symptoms associated with osteoarthritis of the knee and for overall improvement of the knee as assessed by the physician's global evaluation (clinical studies); and
- stiffness associated with pain from rheumatoid arthritis of the hand.

The BioniCare system is contraindicated in patients with demand-type pacemakers and may interfere with other electronic devices.

A review of the literature has not found adequate evidence to indicate the use of electrical/electromagnetic stimulation for the treatment of arthritis will result in improvements in health outcomes. Only one published study on the use of electrical/electromagnetic stimulation which used the BioniCare device for osteoarthritis of the knee has been identified. No published studies of BioniCare for rheumatoid arthritis were identified, therefore electrical stimulation for the treatment of arthritis is considered not medically necessary as there is no proven efficacy.

Medical Criteria:
None

Policy:

All Products:

Electrical stimulation for the treatment of arthritis is considered **not medically necessary** as there is insufficient peer-reviewed scientific literature that demonstrates that the procedure/service is effective.

Coverage:

Benefits may vary between groups/contracts. Please refer to the Evidence of Coverage or Subscriber Agreement for applicable **"Services Not Medically Necessary**" benefit.

Coding:

All Products:
Although there is no code specific to electrical stimulation for the treatment of arthritis E0762 is often used. E0762 is considered **not medically necessary**.

E0762 Transcutaneous electrical joint stimulation device system, includes all accessories

Also Known As:
BioniCare system™

Related Topics:
Transcutaneous electrical nerve stimulator

Published:
Provider Update, Aug 2013
Provider Update, Sep 2012
Provider Update, Aug 2011
Provider Update, Aug 2010
Provider Update, Sep 2009
Provider Update, Oct 2008
Policy Update, Dec 2007
Policy Update, Feb 2007
Policy Update, Dec 2006

References:
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Lee PB, Kim YC, Lim YJ, Lee CH, CHoi Ss, Park SH, Lee JG, Lee SC. Efficacy of Pulsed Electromagnetic Therapy for Chronic Lower Back Pain: a Randomized, Double-blind, Placebo-controlled Study. The Journal of International Medical Research 2006;34:160-167.

Lippiello L, Chakkalakal D, Connolly JF. Pulsing Direct Current-Induced Repair of Articular Cartilage in Rabbit Osteochondral Defects. Journal of Orthopaedic Research 1990;8:266-275.

McCarthy CJ, Callaghan MJ, Oldham JA. Pulsed electromagnetic energy treatment offers no clinical benefit in reducing the pain of knee osteoarthritis: a systematic review. BMC Musculoskeletal Disorders 2006;7:51:1471-74.

Mont MA, He DY, Jones LC, Hungerford DS, Hoffman KC, Zizic TM, Caldwell JR. The Use of Pulsed Electrical Stimulation (PES) to Defer Total Knee Arthroplasty (TKA) in Patients with Osteoarthritis (OA) of the Knee. Presented at American Academy of Orthopaedic Surgeons March 2004.

Wang W, Wang Z, Zhang G, Clark CC, Brighton CT. Up-regulation of Chondrocyte Matric Genes and Products by Electric Fields. Clinical Orthopaedics & Related Research;2004:10:4278:S163-s173.

Zizic TM, Kent CH, Holt PA, Hungerford DS, O'Dell JR, Jacobs MA, Lewis CG, Deal CL, Caldwell JR, Cholewczynski JG, Free SM. The Treatment of Osteoarthritis of the Knee with Pulsed Electrical Stimulation. Journal Rheumatology 1995;22:1757-61.

History:
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