



Medical Review Institute of America, Inc.  
America's External Review Network

DATE OF REVIEW: January 24, 2008

IRO Case #:

**Description of the services in dispute:**

1. Item(s) in dispute: Neuromuscular Stimulator Electric Shock Unit. Advise medical necessity only.

**A description of the qualifications for each physician or other health care provider who reviewed the decision:**

The physician providing this review is board certified in Anesthesiology. The reviewer holds additional certification in Pain Medicine from the American Board of Pain Medicine. The reviewer is a diplomate of the National Board of Medical Examiners. The reviewer has served as a research associate in the department of physics at MIT. The reviewer has received his PhD in Physics from MIT. The reviewer is currently the chief of Anesthesiology at a local hospital and is the co-chairman of Anesthesiology at another area hospital. The reviewer has been in active practice since 1978.

**Review Outcome**

Upon independent review the reviewer finds that the previous adverse determination/adverse determinations should be:

Upheld

Provide a description of the review outcome that clearly states whether or not medical necessity exists for each of the health care services in dispute.

**Information provided to the IRO for review**

**Records from the State:**

Case Assignment Notice-1/7/08-1 page  
Confirmation of Case Assignment Notice-1/7/08-5 pages  
Request for Independent Review-1/2/08-1 page  
Provider Information-undated-2 pages  
Texas Outpatient Non-Authorization Recommendation-11/29/07-2 pages  
Texas Outpatient Reconsideration Decision-12/12/07-2 pages  
Medical Request for Authorization-11/26/07-1 page  
Medical Request for Authorization-12/5/07-1 page  
Medical Prescription-10/26/07-1 page  
Medical Necessity Letter-10/16/07-1 page  
Progress Note-10/16/07-1 page  
Pain Management Follow-up Note-7/5/07-1 page  
2m Literature-undated-2 pages  
2m Two Channel Muscle Stimulator Price List-9/02-1 page  
Pre-Authorization Intake Form-7/2/07-2 pages  
Progress/Treatment Note-6/28/07-2 pages  
Progress/Treatment Note-6/25/07-2 pages  
Re-Evaluation/Re-Examination Form-6/18/07-3 pages  
Progress/Treatment Note-6/18/07-2 pages

#### **Patient clinical history [Summary]**

The claimant is a gentleman who allegedly suffered a workplace injury. Subsequently he developed low back pain. He has apparently been treated conservatively and with transforaminal steroid injections. An RS-2m neuromuscular stimulator has apparently been somewhat helpful in relieving his pain and muscle spasm.

1) Items in dispute: Neuromuscular stimulator electric shock unit. Advised medical necessity only.

#### **Analysis and explanation of the decision include clinical basis, findings and conclusions used to support the decision.**

According to the ODG Treatment Guidelines, neuromuscular stimulators are useful only to rehabilitate atrophied upper extremity muscles following stroke and as a part of a comprehensive physical therapy program. The efficacy of the use of NMES for the relief of pain and muscle spasm, as is the case here, is unproven. On the basis of the ODG Guidelines, therefore, the proposed NMES is not medically necessary.

#### **A description and the source of the screening criteria or other clinical basis used to make the**

**decision:**

Neuromuscular electrical stimulators – Under study. The scientific evidence related to electromyography (EMG)–triggered electrical stimulation therapy continues to evolve, and this therapy appears to be useful in a supervised physical therapy setting to rehabilitate atrophied upper extremity muscles following stroke and as part of a comprehensive PT program. Neuromuscular Electrical Stimulation Devices (NMES), NMES, through multiple channels, attempts to stimulate motor nerves and alternately causes contraction and relaxation of muscles, unlike a TENS device which is intended to alter the perception of pain. NMES devices are used to prevent or retard disuse atrophy, relax muscle spasm, increase blood circulation, maintain or increase range-of-motion, and re-educate muscles. Functional neuromuscular stimulation (also called electrical neuromuscular stimulation and EMG–triggered neuromuscular stimulation) attempts to replace stimuli from destroyed nerve pathways with computer–controlled sequential electrical stimulation of muscles to enable spinal–cord–injured or stroke patients to function independently, or at least maintain healthy muscle tone and strength. Also used to stimulate quadriceps muscles following major knee surgeries to maintain and enhance strength during rehabilitation.

ODG Treatment Guidelines – Pain. Web Edition. Encinitas, CA: Work Loss Data Institute, 2006.

Moore, S R and Shurman, J (1997). Combined neuromuscular electrical stimulation and transcutaneous electrical nerve stimulation for treatment of chronic back pain: a double–blind, repeated measures comparison. Arch Phys Med Rehabil 78: 55–60;

Glaser, J, et al. (2001). Electrical Muscle Stimulation as an Adjunct to Exercise Therapy in the Treatment of Non Acute Low Back Pain: A Randomized Trial. The Journal of Pain 2: 295–300