

SUBJECT: EXTRACORPOREAL SHOCK WAVE THERAPY (ESWT) FOR MUSCULOSKELETAL CONDITIONS AND SOFT TISSUE WOUNDS POLICY NUMBER: 2.01.31 CATEGORY: Technology Assessment	EFFECTIVE DATE: 03/21/01 REVISED DATE: 02/21/02, 02/20/03, 02/19/04, 02/17/05, 12/15/05, 01/18/07, 10/18/07, 09/18/08, 08/20/09, 07/15/10, 06/16/11, 06/21/12, 08/15/13, 07/17/14 PAGE: 1 OF: 8
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• If the member's subscriber contract excludes coverage for a specific service it is not covered under that contract. In such cases, medical policy criteria are not applied.

• Medical policies apply to commercial and Medicaid products only when a contract benefit for the specific service exists.

• Medical policies only apply to Medicare products when a contract benefit exists and where there are no National or Local Medicare coverage decisions for the specific service.

POLICY STATEMENT:

- I. Based upon our criteria and the assessment of peer-reviewed literature, extracorporeal shock wave therapy (ESWT) for the treatment of musculoskeletal conditions, including, but not limited to, chronic plantar fasciitis, tendonitis of the shoulder and elbow, and non-union of fractures, has not been medically proven to be effective and therefore is considered **investigational**.
- II. Based upon our criteria and the assessment of peer-reviewed literature, extracorporeal shock wave therapy (ESWT) as a treatment for wound healing has not been medically proven to be effective and therefore is considered **investigational**.

POLICY GUIDELINES:

The Federal Employee Health Benefit Program (FEHBP/FEP) requires that procedures, devices or laboratory tests approved by the U.S. Food and Drug Administration (FDA) may not be considered investigational and thus these procedures, devices or laboratory tests may be assessed only on the basis of their medical necessity.

DESCRIPTION:

Extracorporeal shock wave therapy (ESWT) is proposed as a non-surgical treatment option for musculoskeletal conditions, including chronic plantar fasciitis and tendonitis of the shoulder and elbow, as well as for non-union of fractures. The mechanism by which ESWT achieves a therapeutic intervention in orthopedic conditions is not completely understood, but there are several hypotheses. ESWT may disrupt fibrous tissue allowing for the subsequent promotion of revascularization and healing of tissue. Also, it is believed that the direct and indirect effects of the shock waves may damage cell membranes so that nociceptors cannot build up a potential to transmit pain signals. Chronic conditions such as tendinitis, can be associated with a substantial degree of scarring and calcium deposition. Calcific deposits may restrict motion and encroach on nerves and blood vessels, causing pain and dysfunction. It is thought that the shock waves will break up these deposits, loosen structures, promote resorption of calcium, thereby decreasing pain and improving function.

Both high-dose and low-dose focused ESWT have been utilized. A high-dose protocol consists of a single treatment of high-energy shock waves (1300mJ/mm²). This painful procedure requires anesthesia. A low-dose protocol consists of multiple treatments, spaced 1 week to 1 month apart, in which a lower dose of shock waves is applied. This protocol does not require anesthesia.

Another type of ESWT is under investigation. Radial ESWT is generated ballistically by accelerating a bullet to hit an applicator, which transforms the kinetic energy into radially expanding shock waves. Other types of ESWT produce focused shock waves that show deeper tissue penetration with significantly higher energies concentrated to a small focus. Radial ESWT is described as an alternative to focused ESWT and is said to address larger treatment areas, thus providing potential advantages in superficial applications like tendinopathies.

ESWT is being proposed as a new approach to soft tissue wound healing. It is being studied as a treatment for delayed or chronic, non-healing wounds and also as a therapy to accelerate tissue repair in wounds such as diabetic ulcers and burns. Although the precise mechanism by which ESWT could provide a therapeutic effect is not known, it is thought

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that ESWT may decrease inflammation and induce neovascularization, allowing for improved perfusion and accelerated epithelialization.

RATIONALE:

The OssaTron® device (Health Tronics) was approved by the FDA in July 2000 for chronic proximal plantar fasciitis and is also approved for use in the treatment of lateral epicondylitis. Dornier MedTech, Inc. received FDA approval for its Premarket Application for Epo Ultra® extracorporeal shock wave therapy device on January 15, 2002 for the treatment of plantar fasciitis. Siemens' SONOCUR® Basic System was approved in July 2002 for treatment of epicondylitis (tennis elbow). Orthometrix's Orbasone™ Pain relief System and Medispec's Orthospec™, received FDA premarket approval in 2005; both are approved to treat plantar fasciitis. The FDA-labeled indication for the OssaTron® and Epos™ Ultra device specifically describes a high-dose protocol, while the labeled indication for the SONOCUR® device describes a low-dose protocol. Radial ESWT (rESWT) received pre-market approval (PMA) in May 2007. The FDA-approved device is the Doloclast (spelled Dolorclast in the PMA summary) from EMS Electro Medical Systems, Nyon, Switzerland.

There is insufficient data published in the peer-reviewed literature to draw conclusions about the effectiveness of either focused or radial ESWT for treatment of musculoskeletal conditions. Outcomes of trials on clinically relevant measures are inconsistent and interpretation complicated by variations in treatment protocols. Published evidence for the use of ESWT to promote healing of fracture non-union consists of reports of case series only, and it cannot be concluded from such studies that ESWT results in acceleration of union.

Likewise, the available evidence in the medical literature evaluating the safety and efficacy of ESWT for wound healing is insufficient to support its use for this indication at the present time.

CODES: Number Description

Eligibility for reimbursement is based upon the benefits set forth in the member's subscriber contract.

CODES MAY NOT BE COVERED UNDER ALL CIRCUMSTANCES. PLEASE READ THE POLICY AND GUIDELINES STATEMENTS CAREFULLY.

Codes may not be all inclusive as the AMA and CMS code updates may occur more frequently than policy updates.

Code Key: Experimental/Investigational = (E/I), Not medically necessary/ appropriate = (NMN).

CPT:	0019T (E/I)	Extracorporeal shock wave involving musculoskeletal system, not otherwise specified, low energy
	0101T (E/I)	Extracorporeal shock wave involving musculoskeletal system, not otherwise specified, high energy
	0102T (E/I)	Extracorporeal shock wave, high energy, performed by a physician, requiring anesthesia other than local, involving lateral humeral epicondyle
	0299T (E/I)	Extracorporeal shock wave for integumentary wound healing, high energy, including topical application and dressing care; initial wound
	0300T (E/I)	Extracorporeal shock wave for integumentary wound healing, high energy, including topical application and dressing care; each additional wound
	28890 (E/I)	Extracorporeal shock wave, high energy, performed by a physician or other qualified health care professional, requiring anesthesia other than local, including ultrasound guidance, involving the plantar fascia

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HCPCS: No specific code(s)

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<u>ICD9:</u>	728.71 Plantar fascial fibromatosis 726.73 Calcaneal spur 726.11 Calcifying tendonitis of the shoulder 726.32 Lateral epicondylitis of the elbow 870.0-897.7 Open wounds (code range) 940.0-949.5 Burns (code range)
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<u>ICD10:</u>	M72.2 Plantar fascial fibromatosis M75.30-M75.32 Calcific tendinitis of shoulder (code range) M77.10-M77.12 Lateral epicondylitis, elbow (code range) M77.30-M77.32 Calcaneal spur, foot (code range) Multiple ICD10 diagnosis codes for open wounds and burns
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* key article

KEY WORDS:

Lithotripsy, Orthotripsy, Ossatron

CMS COVERAGE FOR MEDICARE PRODUCT MEMBERS

There is currently a Local Coverage Determination (LCD) and article for Extracorporeal Shock Wave Therapy for Musculoskeletal Indications. Please refer to the following LCD website for Medicare Members:

http://apps.ngsmedicare.com/lcd/LCD_L28470.htm

http://apps.ngsmedicare.com/sia/ARTICLE_A48009.htm