Osteogenesis Stimulators

Medical Guideline Disclaimer

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Definitions

**Electrical osteogenesis stimulator**: Electrical stimulation to augment bone repair; can be attained either invasively or noninvasively. Invasive devices provide electrical stimulation directly at the fracture site either through percutaneously placed cathodes or by implantation of a coiled cathode wire into the fracture site. The power supply is externally placed and the leads connected to the inserted cathodes. A noninvasive electrical stimulator is characterized by an external power source that is attached to a coil or electrodes placed on the skin or on a cast or brace over a fracture or fusion site.

**Ultrasonic osteogenesis stimulator**: A noninvasive device that emits low-intensity pulsed ultrasound. The ultrasound signal is applied to the skin surface at the fracture location via ultrasound-conductive coupling gel in order to stimulate fracture healing.

Guideline

Members are eligible for coverage of osteogenesis stimulators (noninvasive stimulators require the DME benefit) when the criteria for one of the following are met:

A. **Nonspinal electrical osteogenesis stimulator**

B. **Spinal electrical osteogenesis stimulator**

C. **Ultrasonic osteogenesis stimulator**
A. **Nonspinal electrical osteogenesis stimulator.** One or more of the following criteria must be met:

1. Nonunion of a long-bone fracture (clavicle, femur, tibia, fibula, humerus, radius, ulna, metacarpal, or metatarsal) defined as radiographic evidence that fracture healing has ceased for $\geq 3$ months prior to the start of treatment.
2. Failed fusion of a joint (other than in the spine) with $\geq 9$ months' lapse since the last surgery (ICD-9 code V45.4 – postsurgical arthrodesis status).
3. Congenital pseudarthrosis.

Nonunion of a long bone fracture must be documented by a minimum of 2 sets of radiographs obtained prior to treatment initiation separated by a minimum of 90 days (each including multiple views of the fracture site and with a written interpretation by a physician stating that there has been no clinically significant evidence of fracture healing between the 2 sets of radiographs).

B. **Spinal electrical osteogenesis stimulator.** One or more of the following criteria must be met:

1. Failed spinal fusion $\geq 9$ months' lapse since the last surgery (ICD-9 code V45.4 – postsurgical arthrodesis status).
2. Post multilevel spinal fusion surgery (involves $\geq 3$ vertebrae, e.g., L3-L5, L4-S1, etc.; ICD-9 code V45.4 – postsurgical arthrodesis status).
3. Post spinal fusion surgery where there is a history of a previously failed spinal fusion at the same site.

C. **Ultrasonic osteogenesis stimulator.** Covered in the following clinical situations:

1. Nonunion of a fracture documented by a minimum of 2 sets of radiographs obtained prior to starting treatment with the osteogenesis stimulator, separated by a minimum of 90 days (each including multiple views of the fracture site with a written interpretation by a physician stating that there has been no clinically significant evidence of fracture healing between the 2 sets of radiographs).
2. Fresh fractures, fusions or delayed unions of the scaphoid (carpal navicular), metatarsal (proximal end, [aka Jones Fracture]), tibial shaft and distal radius.

Ultrasound-conductive coupling gel is covered when the Plan covers this type of stimulator.

**Limitations/Exclusions**

Osteogenesis stimulators are not covered if the criteria put forth in this guideline are not met. These stimulators are not covered for fractures of the skull or vertebrae, or if the fracture is tumor-related. An ultrasonic osteogenesis stimulator may not be used concurrently with other noninvasive osteogenesis stimulators.
Osteogenesis Stimulators
Last review: May 8, 2015
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Applicable Procedure Codes

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<tr>
<th>Code</th>
<th>Description</th>
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<tr>
<td>20974</td>
<td>Electrical stimulation to aid bone healing; noninvasive (nonoperative)</td>
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<tr>
<td>20975</td>
<td>Electrical stimulation to aid bone healing; invasive (operative)</td>
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<td>20979</td>
<td>Low intensity ultrasound stimulation to aid bone healing, noninvasive (nonoperative)</td>
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<td>E0747</td>
<td>Osteogenesis stimulator, electrical, noninvasive, other than spinal applications</td>
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<td>E0748</td>
<td>Osteogenesis stimulator, electrical, noninvasive, spinal applications</td>
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<td>Osteogenesis stimulator, electrical, surgically implanted</td>
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<td>Osteogenesis stimulator, low intensity ultrasound, noninvasive</td>
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<td>A4559</td>
<td>Coupling gel or paste, for use with ultrasound device, per oz.</td>
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References


Specialty-matched clinical peer review.