Percutaneous Electrical Nerve Stimulation and Percutaneous Neuromodulation Therapy

(70129)

<table>
<thead>
<tr>
<th>Medical Benefit</th>
<th>Effective Date: 10/01/09</th>
<th>Next Review Date: 03/17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preauthorization</td>
<td>Yes</td>
<td>Review Dates: 05/09, 03/10, 03/11, 03/12, 03/13, 03/14, 03/15, 03/16</td>
</tr>
</tbody>
</table>

Preauthorization is required for Medicare Advantage.

The following Protocol contains medical necessity criteria that apply for this service. The criteria are also applicable to services provided in the local Medicare Advantage operating area for those members, unless separate Medicare Advantage criteria are indicated. If the criteria are not met, reimbursement will be denied and the patient cannot be billed. Please note that payment for covered services is subject to eligibility and the limitations noted in the patient’s contract at the time the services are rendered.

<table>
<thead>
<tr>
<th>Populations</th>
<th>Interventions</th>
<th>Comparators</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients/individuals with: • Various pain conditions(^a)</td>
<td>Interventions of interest are: • Percutaneous electrical nerve stimulation • Percutaneous neuromodulation therapy</td>
<td>Comparators of interest are: • Continued medical management</td>
<td>Relevant outcomes include: • Quality of life • Functional outcomes • Medication use • Symptoms</td>
</tr>
</tbody>
</table>

\(^a\) For example, chronic low back pain, chronic neck pain, diabetic neuropathy, headache, chronic surface hyperalgesia, osteoarthritis of the knee, and acute postoperative pain.

Description

Percutaneous electrical nerve stimulation (PENS) and percutaneous neuromodulation therapy (PNT) are therapies that combine the features of electroacupuncture and transcutaneous electrical nerve stimulation (TENS). PENS is performed with a few needle electrodes while PNT uses very fine needle-like electrode arrays that are placed in close proximity to the painful area to stimulate peripheral sensory nerves in the soft tissue.

Summary of Evidence

The literature on percutaneous electrical nerve stimulation (PENS) and percutaneous neuromodulation therapy (PNT) consists primarily of small controlled trials with unclear blinding and short follow-up. In the highest quality trial of PENS conducted to date, no difference in outcomes was found between the active (30 minutes of stimulation at 10 needles) and the sham (five minutes of stimulation at two needles) treatments. Literature searches have identified only two small trials on PNT, and clinical input on the efficacy of PENS and PNT was mixed. The available evidence is insufficient to permit conclusions concerning the effect of this procedure on health outcomes.

Policy

Percutaneous electrical neurostimulation or neuromodulation is considered investigational.
Medicare Advantage

Percutaneous electrical nerve stimulation is medically necessary when performed by a physician or incident to physician’s service, to determine if pain is effectively controlled by percutaneous stimulation, therefore warranting implantation of electrodes.

Medicare Advantage Policy Guidelines

Generally the physician should be able to determine whether the patient is likely to derive a significant therapeutic benefit from continuing use of an implanted nerve stimulator within a trial period of one month. In a few cases, this determination may take longer to make.

Background

Percutaneous electrical nerve stimulation (PENS) is similar in concept to transcutaneous electrical nerve stimulation (TENS; see the Transcutaneous Electrical Nerve Stimulation Protocol), but differs in that needles are inserted either around or immediately adjacent to the nerves serving the painful area and are then stimulated. PENS is generally reserved for patients who fail to get pain relief from TENS. PENS is also distinguished from acupuncture with electrical stimulation. In electrical acupuncture, needles are also inserted just below the skin, but the placement of needles is based on specific theories regarding energy flow throughout the human body. In PENS, the location of stimulation is determined by proximity to the pain rather than the theories of energy flow that guide placement of stimulation for acupuncture.

Percutaneous neuromodulation therapy (PNT) is a variant of PENS in which fine filament electrode arrays are placed near the area that is causing pain. Some use the terms PENS and PNT interchangeably. It is proposed that PNT inhibits pain transmission by creating an electrical field that hyperpolarizes C-fibers, thus preventing action potential propagation along the pain pathway.

Regulatory Status

Percutaneous Neuromodulation Therapy™ (Vertis Neurosciences) received approval to market by FDA through the 510(k) process in 2002. The labeled indication reads as follows, “Percutaneous neuromodulation therapy (PNT) is indicated for the symptomatic relief and management of chronic or intractable pain and/or as an adjunctive treatment in the management of post-surgical pain and post-trauma pain.” The Deepwave® Percutaneous Neuromodulation Pain Therapy System (Biowave) received 510(k) approval in 2006, listing the Vertis Neuromodulation system and a Biowave TENS unit as predicate devices. The Deepwave system includes a sterile single-use percutaneous electrode array that contains 1014 microneedles in a 1.5-inch diameter area. The needles are 736 μm (0.736 mm) in length; the patch is reported to feel like sandpaper or Velcro. FDA product code: NHI.

Related Protocols

Temporomandibular Joint Dysfunction
Transcutaneous Electrical Nerve Stimulation
Services that are the subject of a clinical trial do not meet our Technology Assessment Protocol criteria and are considered investigational. For explanation of experimental and investigational, please refer to the Technology Assessment Protocol.

It is expected that only appropriate and medically necessary services will be rendered. We reserve the right to conduct prepayment and postpayment reviews to assess the medical appropriateness of the above-referenced procedures. Some of this Protocol may not pertain to the patients you provide care to, as it may relate to products that are not available in your geographic area.

References

We are not responsible for the continuing viability of web site addresses that may be listed in any references below.

1. Blue Cross and Blue Shield Association Technology Evaluation Center (TEC). Transcutaneous electric nerve stimulation (TENS) or percutaneous electric nerve stimulation (PENS) in the treatment of chronic and postoperative pain TEC Assessments. 1996; Volume 11, Tab 21.


