Long-term transcutaneous electrical nerve stimulation (TENS) use: impact on medication utilization and physical therapy costs.

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OBJECTIVE:

A study was conducted to assess a variety of treatment outcomes in long-term users of transcutaneous electrical nerve stimulation (TENS) who suffer from chronic pain. Key components of the study examined the effects of long-term TENS therapy on pain-related medications and physical /occupational therapy (PT/OT) use.

DESIGN:

From a population of 2,(X)3 chronic pain patients (CPPs) who acquired a TENS device for pain management, a randomly selected sample of 376 patients who used TENS were interviewed by telephone by an independent research firm. The survey assessed a variety of outcome variables including changes in medication use, number of pain-related medications, and use of PT/OT prior to TENS and after a minimum 6 months of TENS treatment. The data were subjected to a paired t test analysis. A cost simulation model was then applied to the medication and PT/OT data.

RESULTS:

The mean duration of pain, for which TENS was prescribed, was 40 +/– 60 months. As compared with the period prior to TENS use, this long-term TENS user group reported a statistically significant reduction in the following types of pain medications: opiate analgesics, tranquilizers, muscle relaxants, nonsteroidal anti-inflammatory drugs (NSAIDs), and steroids. PT/OT use was also significantly reduced. Cost simulations of pain medications and PT/OT are presented.

CONCLUSIONS:

Long-term use of TENS is associated with a significant reduction in the utilization of pain medication and PT/OT. In this study population, cost simulations of medication and PT/OT indicate that with long term TENS use, costs can be reduced up to 55% for medications and up to 69% for PT/OT. The potential for TENS associated improvement, combined with reduced medication-related complications and costs, are important points that clinicians should consider when constructing a treatment plan for chronic pain patients. Finally, cost simulation techniques provide a useful tool for assessing outcomes in pain treatment and research.

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