

TRANSCUTANEOUS ELECTRICAL NERVE STIMULATION (TENS) (UPDATED DECEMBER 2008)

CLINICAL QUESTION

Is TENS safe and effective in the management of chronic non-malignant low back pain \geq 3 months' duration?

THE EVIDENCE

Treatment	Condition	Comparator	Relevant Results/Authors' Conclusions [#]
TENS [†]	Chronic non-malignant low back pain	Sham TENS or placebo TENS	<p>Conflicting evidence that conventional TENS reduces pain intensity better than placebo following 2 weeks of treatment.</p> <p>Moderate evidence that TENS is not improving back-specific functional status better than placebo regardless of whether conventional or acupuncture-like TENS was used following 2 to 4 weeks of treatment.</p> <p>Conflicting evidence that conventional and acupuncture-like TENS improves generic health status (evaluated by modified SIP and SF-36) better than placebo following 2 weeks of treatment.</p> <p>Limited evidence that conventional and acupuncture-like TENS does not improve the work status and the use of medical services better than placebo following 4 weeks of treatment.</p> <p>Safety was assessed in one RCT (N = 145 patients) and showed skin irritation at the site of electrode placement in a third of participants.</p>

[†]Based on three **AVERAGE*** and one **POOR*** quality randomised controlled trials, as assessed by the authors of this review, published between 1990 and 2005; [#]Refer to Grading Key document for explanation of evidence grading.

IMPLICATIONS FOR PRACTICE

What we don't know:

- What is the optimal frequency and intensity for TENS application?
- What is the optimal treatment duration?
- How is the effectiveness of TENS influenced by site of application and treatment duration?
- What is the effectiveness of TENS relative to other treatment modalities?
- Is TENS effective when combined with other treatments?
- What is the durability of treatment effects?
- What are the therapeutic benefits of TENS in the chronic LBP population at the time of a recurrence?

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Research Evidence: What we know

In patients with chronic non-malignant low back pain, evidence indicates that:

- TENS does not improve functional status, work status, or use of medical services better than placebo.

In general, patients treated with acupuncture-like TENS responded similar to those treated with conventional TENS.

Recommendation from Clinical Ambassadors

The research evidence available to date does not support the use of TENS as a sole treatment for chronic low back pain. While clinically we sometimes see improvements with this treatment, there isn't yet enough evidence to predict those in whom it is likely to be successful. Extended trials without benefit are not warranted.

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Reference: This Evidence Brief is based on results from a **GOOD*** quality systematic review (SR).
Khadilkar A, Odebiyi DO, Brosseau L, Wells G. Transcutaneous electrical nerve stimulation (TENS) versus placebo for chronic low-back pain. *Cochrane Database Syst Rev.* 2008;(4):CD003008.

***Quality ratings for RCTs & SR:** Good ● Average ● Poor ●

[Key to Evidence Gradings](#)

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