

Author Year Country PEDro Score Research Design Total Sample Size	Methods	Outcome
<p>Bi et al. 2015 China RCT PEDro=7 N_{start}=52 N_{end}=48</p>	<p>Population: TENS group: Mean age=35.5±9.0 yr; Gender: males=17, females=7; Time since injury=7.0±4.1 mo; Level of injury: tetraplegia=10, paraplegia=16; Severity of injury: complete=15, incomplete=11; Type of pain=neuropathic. Control group: Mean age=33.6±8.5 yr; Gender: males=15, females=9; Time since injury=6.8±3.1 mo; Level of injury: tetraplegia=7, paraplegia=19; Severity of injury: complete=18, incomplete=8; Type of pain=neuropathic. Intervention: Participants were randomized to either a TENS group and treated with TENS or a control group and treated with sham TENS for 20 min, 3 times/wk for 12 wks. Outcome Measures: Pain (visual analog scale (VAS) and the McGill Pain Questionnaire (MPQ)). Transcutaneous electrical nerve stimulation (TENS)</p>	<ol style="list-style-type: none"> 1. Significant difference between the TENS and control group in VAS pain severity scores (p<0.05). 2. Significant difference between the TENS and control group in MPQ pain severity scores (p<0.05).
<p>Ozkul et al. 2015 Turkey RCT Crossover PEDro=5 N=24</p>	<p>Population: Mean age=32.33; Gender: males=18, females=6; Level of injury: paraplegia=6, quadriplegia=18; Severity of injury: incomplete=7, complete=17; Mean time post injury=12.46mo; Type of pain=neuropathic. Treatment: Participants received transcutaneous electrical nerve stimulation (TENS) and visual illusion (VI) in a randomized sequence. Each treatment was delivered for 2wk with a 1wk washout period in between. Outcomes were assessed pre and post each treatment period. Outcome Measures: Visual Analogue Scale - Pain Intensity (VAS-PI), Neuropathic Pain Scale (NPS), Brief Pain Inventory (BPI).</p>	<ol style="list-style-type: none"> 1. There was a reduction in VAS-PI immediately after VI (p=0.07) and TENS (p=0.08), but there was no statistically significant group effect. 2. There was a significant reduction in pain 2wk post TENS (p=0.04) but not 2wk post VI (p>0.05). 3. On NPS, VI significantly decreased the following pain types: hot (p=0.047), sharp (p=0.02), unpleasant (p=0.03), and deep (p=0.047); TENS did not show any significant effects. 4. On BPI, VI significantly decreased the negative effect of pain on moving ability (p=0.04) and TENS significantly decreased the negative effect of pain on mood (p=0.03), relationships (p=0.04), and sleep (p=0.04).
<p>Norrbrink 2009 Sweden PCT N=24</p>	<p>Population: Age=47.2yr; Gender: males=20, females=4; Level of injury: C=13, T=8, L=3. Type of pain=neuropathic and musculoskeletal Intervention: Patients were provided with either low frequency (2Hz) or high frequency (80Hz) transcutaneous electrical nerve stimulation (TENS) stimulation for 30-40 min 3x/day for 2 wk followed by a 2 wk washout period and switched stimulation frequency. Outcome Measures: Numeric Rating Scale (NRS)</p>	<ol style="list-style-type: none"> 1. No significant difference was found between the two modes of stimulation. 2. 21% reported reduction of greater than or equal to 2 units of general pain intensity (more than 1.8 considered significant clinical reduction), 29% in worst pain intensity and 33% in pain unpleasantness. 3. 29% reported a favorable effect on the global pain relief scale from HF and 38% from LF stimulation.

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<p>Zeb et al. 2018 Pakistan Pre-Post N=60</p>	<p>Population: Mean age=52.6±0.5; Gender: males=45, females=15; Severity of injury: all incomplete; Type of pain=neuropathic. Intervention: Participants engaged in high frequency (80 Hz) transcutaneous electrical nerve stimulation (TENS) for 45 min/day, 4 days/wk for 8wks with assessments at baseline and post-intervention. Outcome Measures: Pain intensity (visual analog score (VAS)).</p>	<p>1. Mean pain intensity decreased in a linear fashion and showed a significant difference from pre- to post-intervention (p<0.05).</p>
<p>Davis & Lentini 1975 USA Case Series N=31</p>	<p>Population: Type of pain=neuropathic Treatment: Patients were tested with transcutaneous nerve stimulation. Outcome Measures: Subjective patient report.</p>	<p>1. Those with a cervical injury (n=4) were not successfully treated with TENS. About 1/3 of patients (n=11) felt that the treatment was a success, with those experiencing at-injury site pain most effectively treated.</p>