

Table 11. Physical Stimulation for Depression following SCI

Author Year Country Research Design PEDro Score Total Sample Size	Methods	Outcome
<p>Tan et al., (2011) USA RCT PEDro=8 NInitial=105 NFinal=100</p>	<p>Population: Mean age=52yr; Gender: males=90, females=15; Level of injury: paraplegia=66, quadriplegia=37, unknown=2; Severity of injury: incomplete=52, complete=42, unknown=11; Mean time post injury=15yr; Depression status=symptoms. Intervention: Individuals with chronic neuropathic pain were randomized to receive active cranial electrotherapy stimulation (CES, treatment; n=46) or sham CES (control, n=59) 1hr/d for 21d. Outcomes were assessed pre and post treatment. Outcome Measures: Center for Epidemiologic Studies Depression Scale – Short Form (CES-D-SF), State-Trait Anxiety Inventory – Short Form (STAI-SF).</p>	<ol style="list-style-type: none"> 1. At baseline, the treatment group had significantly poorer scores on CES-D-SF (p<0.05). 2. There was no significant main effect of time on CES-D-SF. 3. There were no significant time x group interactions on CES-D-SF.
<p>Defrin et al., (2007) Israel</p>	<p>Population: Mean age=54 yr; Gender: males=7, females=4.</p>	<ol style="list-style-type: none"> 1. Real and sham TMS groups showed a significant decrease in

<p>RCT PEDro=10 N=12</p>	<p>Intervention: Individuals were randomly placed into two groups: real or sham 10 daily motor repetitive transcranial magnetic stimulation (rTMS) treatments (500 trains at 5 Hz for 10s; total of 5000 pulses at intensity of 115% of motor threshold) over a 2 wk period, using figure-of-8 coil over the vertex. The primary outcome measure was pain, while depression was a secondary outcome measure for the treatment.</p> <p>Outcome Measures: Beck Depression Inventory (BDI)</p>	<p>BDI values following the treatment period in comparison to pretreatment BDI values ($p < 0.01$).</p> <ol style="list-style-type: none"> 2. This reduction was maintained by both groups at follow-up (4.5 wk) ($p < 0.01$). 3. Only individuals in the rTMS treatment group exhibited a decreased level of depression during follow-up in comparison to the values at the end of treatment ($p < 0.05$).
<p>Fregni et al.,(2006) USA RCT PEDro=8 NInitial=17 NFinal=15</p>	<p>Population: Mean age=35yr; Gender: males=14, females=3; Level of injury: paraplegic=8, quadriplegic=9; Severity of injury: incomplete=6, complete=11; Mean time post injury=3.5yr; Depression status=symptoms.</p> <p>Intervention: Individuals with central pain were randomized to receive active transcranial direct current stimulation (tDCS, treatment; n=11) or sham tDCS (control, n=6) 20min/d for 5d.</p> <p>Outcomes were assessed at baseline, 1-5d pre and post treatment, and 16d follow-up.</p> <p>Outcome Measures: Beck Depression Inventory (BDI), Visual Analogue Scale-Anxiety (VAS-A).</p>	<ol style="list-style-type: none"> 1. On BDI, there was no significant effect of time ($p = 0.82$), group ($p = 0.43$), or time x group interaction ($p = 0.94$).