Table 2. Study characteristics, outcome measures and results of T(E)NS included in systematic review of Mahmood et al (2019)

Study; design	Sample size	Area treated	Intervention		Comparison		Duration of intervention	Outcomes of interest reported
			Type, N	Characteristics, T(E)NS	Type, N	Characteristic		Study quality assessment
Cho, 2013; Crossover RCT	42	Ankle plantar flexors	Exercise + T(E)NS N=22	Frequency: 100 Hz Duration: 60 min Intensity: 2-3 times of sensory threshold Pulse characteristic: width 200 µs Electrode placement: belly of gastrocnemius	Exercise + Placebo T(E)NS N = 20	Electrical stimulation to the gastrocnemius	1 day	Outcome measure: MAS T(E)NS group showed a significantly greater reduction in spasticity of gastrocnemius, compared to placebo-T(E)NS group (p<.05). These effects returned to baseline values within 1 d. PEDro Score 7; Low risk of bias
Jung 2017; RCT	40	Ankle plantar flexors	T(E)NS + Exercises N= 20	Frequency: 100 Hz Duration: 30 min Intensity: 2 times the sensory threshold without muscle contraction Pulse characteristic: width 200 µs Electrode placement: over the peroneal nerve on the affected side*	Sham T(E)NS + Exercises N= 20		5d/wk, for 6 wk	Outcome measure: Composite Spasticity Scale (CSS) CSS significantly decreased in the T(E)NS group (mean change, 2.6 ± 0.8 score) compared with the placebo stimulation group (mean change, 0.7 ± 0.8 score), (P<.001). Low risk of bias
Kim 2013; RCT	30	Upper limb	Task related training + T(E)NS N= 15	Frequency: 100 Hz Duration: 30 min Intensity: 2-3 times of sensory threshold Pulse characteristic: 200 µs Pulses Electrode placement: muscle belly of triceps and wrist extensors*	Task Related Training + Placebo T(E)NS N= 15		5d/ wk for 4 wk	Outcome measure: MAS Significant improvement was observed only in the T(E)NS + Task Related Training group (P=.011). Moderate risk of bias

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Ng 2007; RCT	80	Plantar flexors	Group 2: T(E)NS N= 19 Group3: Placebo T(E)NS + Task Related Training N=20 Group 4: T(E)NS + Task Related Training N=21	Frequency: 100 Hz Duration: 60 min Intensity: 2-3 times of sensory stimulation Pulse characteristic: 0.2 ms square pulses Electrode placement: 4 acupuncture points of lower leg: ST 36, LV 3, GB 34, UB 60 (peroneal nerve)*	Group 1: no treatment N=20		5d/wk for 4 wk	Outcome measure: CSS All 3 intervention groups showed a significantly greater reduction in plantar flexor spasticity when compared with the control group at wk 4 with improvements maintained at follow-up. When compared with the Placebo+Task Related Training group, both T(E)NS (T(E)NS and T(E)NS+Task Related Training) groups showed faster and more reduction in plantar flexor spasticity as measured by the CSS at wk 2 (P<.01). Low risk of bias
Park 2014, RCT	29	Plantar flexors	Exercise + T(E)NS, N=15	Frequency: 100 Hz Duration: 30 min Intensity: subsensory threshold with no sensation Pulse characteristic: width 200 µs Electrode placement: lateral and medial quadriceps and gastrocnemius on affected LE		Exercise + Placebo T(E)NS, N=14	5 sessions/wk, for 6 wk	Outcome measure: MAS The T(E)NS group showed more reductions of MAS than the placebo T(E)NS group (P<.05). Moderate risk of bias

In these studies they assumed the principle of reciprocal inhibition, stimulating the antagonists and not the spastic agonists

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