

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
Alexander et al., 2004 PEDro score: 6 Country: USA	32 patients with acute/subacute stroke	Acupuncture (n=16) vs. No acupuncture (n=16) Treatment details 30-minute sessions, 7 days/week for 2 weeks. Acupuncture: Manual needle insertion to the hemiparetic limb using 9 main acupoints, 5 supplementary upper limb acupoints, 7 lower limb acupoints, 3 aphasia related acupoints, 2 facial paralysis related acupoints, and 2 vision problems related acupoints. Both groups also received conventional rehabilitation (i.e. physical, occupational, and/or speech therapy) for 3-hours/session, 6 days/week for duration of inpatient stay.	At discharge from the inpatient stay: (-) Fugl-Meyer Assessment (FMA) – total (-) FMA- Lower extremity (LE) joint motion (-) FMA - Upper extremity (UE) joint motion (-) FMA - LE joint pain (-) FMA - UE joint pain (+) FMA - LE motor function (-) FMA - UE motor function (-) FMA - LE sensation (-) FMA - UE sensation (-) FMA – Balance (-) Functional Independence Measure (FIM) – total (-) FIM – Self-care, upper body dressing (-) FIM - Self-care: lower body dressing (-) FIM – Mobility: Bed/chair/wheelchair (-) FIM – Mobility: Toilet transfer (+) FIM – Mobility: Tub/shower transfer (-) FIM –Locomotion: Walk/wheelchair (-) FIM –Locomotion: Stairs
Chen et al., 2016 PEDro score: 8 Country: China	250 patients with acute stroke	Electroacupuncture (n=125) vs. No acupuncture (n=125) Treatment details: 30 minutes/session, 6 times/week for 3 weeks. Electroacupuncture: Scalp needles were retained for 4 hours. Needles were applied to 2 scalp and 12 body acupoints (affected upper and lower extremity); additional points targeting dysphagia and/or cognitive impairment were used when necessary.	At 1 week (during treatment): (-) National Institute of Health Stroke Scale (NIHSS) At 3 weeks (post-treatment): (-) NIHSS (-) FMA - LE (-) FMA - UE (-) Mini-Mental State Examination (MMSE) (-) Montreal Cognitive Assessment (+) Bedside Swallowing Assessment*

Results Table
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		<p>Needles inserted 30-40mm in depth by twirling method. Intermittent wave and low-frequency 2Hz electrical stimulation was provided.</p> <p>Both groups also received conventional rehabilitation for 2 hours/session, 6 times/week for 3 weeks, which comprised physiotherapy and occupational therapy to facilitate normal limb posture, passive range of motion of hemiplegic side, bedside rehabilitation, neuromuscular electrical stimulation, swallowing and/or cognitive training.</p>	<p>At 7 weeks (follow-up):</p> <p>(+) NIHSS*</p> <p>(+) FMA - LE*</p> <p>(-) FMA – UE</p> <p>(+) MMSE*</p> <p>(+) Montreal Cognitive Assessment*</p> <p>(+) Videofluoroscopic Swallowing Study*</p> <p>(+) Bedside Swallowing Assessment*</p> <p>*Results refer to changes in scores from baseline to the testing time point.</p>
<p>Fink et al., 2004 PEDro score: 6 Country: Germany</p>	<p>25 patients with chronic stroke and leg spasticity with pes equinovarus deformity</p>	<p>Acupuncture (n=13) vs. Placebo acupuncture (n=12)</p> <p>Treatment details: 30-minutes/session, 2 times/week for 4 weeks.</p> <p>Acupuncture: Needles in inserted in up to 15 acupoints related to lower extremities (bilateral and/or affected side only).</p> <p>Placebo acupuncture treatment: time-matched treatment; placebo needles were inserted at defined nonacupoints.</p>	<p>At first treatment:</p> <p>(-) Modified Ashworth Scale - ankle</p> <p>(-) Hmax/Mmax ratio of the spastic leg (Hoffman reflex, neurophysiologic assessment of spasticity)</p> <p>(-) 2-Minute Walk Test</p> <p>(-) Rivermead Motor Assessment</p> <p>(-) Rivermead Mobility Index</p> <p>(-) Step length</p> <p>(-) Cadence</p> <p>(-) Mode of initial foot contact</p> <p>(-) Pain - Visual Analog Scale</p> <p>(-) Clinical Global Impressions Scale</p> <p>At 4 weeks (immediately post-treatment):</p> <p>(-) Modified Ashworth Scale - ankle</p> <p>(+) Hmax/Mmax ratio of the spastic leg (in favor of acupuncture group; higher ratio indicates more spasticity)*</p> <p>(-) 2-Minute Walk Test</p> <p>(-) Rivermead Motor Assessment</p>

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			(-) Rivermead Mobility Index (-) Step length (-) Cadence (-) Mode of initial foot contact (-) Pain - Visual Analog Scale (+) Clinical Global Impressions Scale* (-) Nottingham Health Profile (-) Everyday Life Questionnaire (-) von Zerssen Depression Scale At 3 months (follow-up): (-) Modified Ashworth Scale – ankle (-) Hmax/Mmax ratio of the spastic leg (-) 2-Minute Walk Test (-) Rivermead Motor Assessment (-) Rivermead Mobility Index (-) Step length (-) Cadence (-) Mode of initial foot contact (-) Pain - Visual Analog Scale (-) Clinical Global Impressions Scale (-) Nottingham Health Profile (-) Everyday Life Questionnaire (-) von Zerssen Depression Scale NOTE: Authors indicate that negative clinical results may have been due to the technique of acupuncture used, and the neurophysiologic data. *In favor of placebo acupuncture vs. acupuncture.
Gosman-Hedstrom et al., 1998	104 patients with acute stroke	Deep electroacupuncture (n=37) vs.	At 3 months (immediately post-treatment): (-) Scandinavian Stroke Study Group – neurological score

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<p>PEDro score: 8 Country: Sweden</p>		<p>Superficial acupuncture (n=34) vs. No acupuncture (n=33) Treatment details: 30-minute sessions, 2 times/week for 10 weeks. Deep acupuncture: 30 mm long needles inserted in 10 acupoints on the affected and unaffected sides. Needles on the unaffected side were manually stimulated every 5 minutes until "de chi" was achieved. Electrical stimulation (2Hz frequency) was applied to acupoints on the affected side. Intensity of stimulation was increased until pronounced muscle contraction was achieved. Superficial acupuncture: Short needles inserted in 4 acupoints (1 in each extremity), placed superficially just under the skin. No electrical or manual stimulation used. All groups received conventional rehabilitation; no details of frequency, duration or nature of treatment provided.</p>	<p>(-) Barthel Index (-) Sunnaas Index (-) Nottingham Health Profile (NHP) -Sleep (-) NHP- Emotional relations (-) NHP - Lack of energy (-) NHP - Physical abilities (-) NHP - Social isolation (-) NHP – Pain At 12 months (follow-up): (-) Scandinavian Stroke Study Group – neurological score (-) Barthel Index (-) Sunnaas Index (-) Nottingham Health Profile (NHP) - Sleep (-) NHP- Emotional reaction (-) NHP - Energy (+) NHP - Physical abilities* (-) NHP - Social isolation (-) NHP – Pain *In favor of deep acupuncture vs. no acupuncture.</p>
<p>Hegyi & Szigeti, 2012 PEDro score: 5 Country: Hungary</p>	<p>50 patients with acute/subacute stroke</p>	<p>Acupuncture (n=25) vs. No acupuncture (n=25) Treatment details: Acupuncture: Yamamoto New Scalp (YNSA) method, using dry needling where 12 needles were inserted at 0.7-0.9 mm depth for 4 weeks (i.e. "permanent insertion") at the following acupoints: cerebrum, cerebellum, basal ganglia, liver (on the skull), kidney Shu</p>	<p>At 2 years post-stroke (follow-up): (+) Barthel Index (+) Rivermead Mobility Index (+) Visual Analogue Scale – for general and physical status</p>

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		back point bilaterally. Provided 1x/month for the period of the clinical trial. Both groups received physiotherapy 3 sessions/week for the period of the clinical trial, using the Devenyi-Peto method in attempt to restore normal movement and improve strength.	
Hopwood et al., 2008 PEDro score: 7 Country: UK	105 patients with acute stroke	Electroacupuncture (n=57) vs. Placebo electroacupuncture (n=48) Treatment details: 30-minute sessions, 3-4 times/week for 4 weeks. Electroacupuncture: 5 upper limb, 5 lower limb and 4 scalp acupoints. Needles were manipulated until “Deqi” sensation achieved. Electric stimulation was provided (2Hz to upper and lower extremities and 100 Hz to scalp acupoints). Placebo electroacupuncture: Electrodes were placed at 2 upper limb, 2 lower limb and 2 scalp acupoints. Body and scalp points were attached to a TENS machine with red flashing lights and deactivated leads without current flow.	At 3 weeks (during treatment): (-) Barthel Index (-) Motricity Index (-) Nottingham Health Profile (NHP) – Pain (-) NHP – Emotional reaction (-) NHP – Sleep (-) NHP – Social Isolation (-) NHP – Physical activity (+) NHP – Energy level* At 6, 12, 24, and 52 weeks (follow-up): (-) Barthel Index (-) Motricity Index (-) NHP – Pain (-) NHP – Emotional reaction (-) NHP – Sleep (-) NHP – Social isolation (-) NHP – Physical activity (+) NHP – Energy level* *a significant treatment effect is found in the acupuncture group having more energy.

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
Hsieh et al., 2007 PEDro score: 8 Country: China	63 patients with acute stroke	<p>Electroacupuncture (n=30) vs. No acupuncture (n=33)</p> <p>Treatment details: 20-minutes/session, 2 times/week for 4 weeks. Electroacupuncture: 8 acupoints over the affected upper and lower extremity and the scalp. Electric stimulation was provided (10mA amplitude, 3 and 15Hz alternating frequencies, intensity raised up to tolerance).</p> <p>Both groups received conventional rehabilitation (physical, occupational, and speech therapy) for the duration of the study.</p>	<p>At 2 weeks (during treatment):</p> <ul style="list-style-type: none"> (+) Fugl-Meyer Assessment (FMA) – total (-) FMA- Wrist motor function (+) FMA - Hand motor function (+) FMA- Upper extremity coordination and speed (-) FMA - Shoulder/elbow/wrist motor function (-) FMA - Hip/knee/ankle motor function (-) FMA - Lower extremity coordination and speed (-) FMA - Balance (-) FMA - Sensation (-) FMA - Range of motion (-) Functional Independence Measure (FIM) – Total (-) FIM – Self-care (+) FIM - Social (-) FIM – Mobility (-) FIM - Locomotion (-) FIM - Sphincter control (-) FIM - Communication <p>At 4 weeks (post-treatment):</p> <ul style="list-style-type: none"> (+) FMA- Total (+) FMA - Wrist motor function (+) FMA - Hand motor function (+) FMA - Upper-extremity coordination and speed (-) FMA - Shoulder/elbow/wrist motor function (-) FMA - Hip/knee/ankle motor function (-) FMA - Lower extremity coordination and speed (-) FMA - Balance (-) FMA - Sensation (-) FMA - Range of motion (-) FIM – Total

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			(-) FIM – Self-care (-) FIM - Social cognition (-) FIM – Mobility (-) FIM - Locomotion (-) FIM - Sphincter control (-) FIM - Communication At 3 months post-stroke (follow-up): (+) FMA – Total (+) FMA - Wrist motor function (+) FMA - Hand motor function (+) FMA - Upper-extremity coordination and speed (-) FMA - Shoulder/elbow/wrist motor function (-) FMA - Hip/knee/ankle motor function (-) FMA - Lower extremity coordination and speed (-) FMA- Balance (-) FMA – Sensation (+) FMA - Range of motion (-) FIM – Total (-) FIM – Self-care (-) FIM - Social cognition (-) FIM - Mobility (-) FIM - Locomotion (-) FIM - Sphincter control (-) FIM - Communication At 6 months post-stroke (follow-up): (-) FMA-Total (+) FMA - Wrist motor function (+) FMA - Hand motor function (+) FMA - Upper-extremity coordination and speed (-) FMA - Shoulder/elbow/wrist motor function

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Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
			(-) FMA - Hip/knee/ankle motor function (-) FMA - Lower extremity coordination and speed (-) FMA - Balance (-) FMA - Sensation (-) FMA - Range of motion (-) FIM – Total (-) FIM – Self-care (-) FIM - Social cognition (-) FIM – Mobility (-) FIM – Locomotion (-) FIM - Sphincter control (-) FIM - Communication
Hu et al., 1993 PEDro score: 4 Country: China	30 patients with acute stroke	Acupuncture (n=15) vs. No acupuncture (n=15) Treatment details: 30-60 minutes/session, every other day for 4 weeks. Acupuncture: Included scalp acupuncture, body acupuncture and electrical stimulation. Both groups received conventional rehabilitation.	At 4 weeks (post-treatment): (+) Neurologic outcome (-) Barthel Index At 3 months (follow-up): (+) Neurologic outcome (-) Barthel Index Note: when subgroup analyses were done, a significant difference between groups in favor of the acupuncture group was found in patients with poor baseline neurologic scores.
Jiang et al., 2016 PEDro score: 7 Country: China	240 patients with acute/subacute stroke	Acupuncture (AC) + conventional rehabilitation (CR) (n=60) vs. Computerized cognitive training (COG) + CR (n=60) vs. AC + COG + CR (n=60)	At 12 weeks (post-treatment): AC / COG / AC+COG vs. CR: (+) Mini-Mental State Examination (MMSE) (+) Montreal Cognitive Assessment (MOCA) (+) Functional Independence Measure (FIM)

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		<p>vs. CR alone (n=60) Treatment details: 30-minute sessions, 5 times/week for 12 weeks. Acupuncture (AC) consisted of inserting needles into 2 acupoints: Baihui (DU20) and Shenting (DU24), manipulating them to achieve the Deqi sensation, and rotate them for 1 minute every 10 minutes. Computerized cognitive training (COG) consisted of using the RehaCom software containing cognitive training modules (attention, memory, executive functions, visual fields) with different levels of difficulty, automatically increasing task difficulty level as per subjects' successful completion. Combined AC+COG consisted of performing both treatment simultaneously (i.e. cognitive training with RehaCom software while needles are inserted into the respective acupoints). CR consisted of medical treatment, physical and occupational therapy, exercise therapy, hydrotherapy, etc.</p>	<p>AC+COG vs. AC alone (+) MMSE (+) MOCA (+) FIM AC+COG vs. COG alone (+) MMSE (+) MOCA (+) FIM AC vs. COG (-) MMSE (-) MOCA (-) FIM *significant between-group differences refer to changes in scores from baseline to post-treatment.</p>
<p>Johansson et al., 1993 PEDro score: 5 Country: Sweden</p>	<p>78 patients with acute stroke</p>	<p>Electroacupuncture (n=38) vs. No acupuncture (n=40) Treatment details: 30-minutes/session, 2 times/week for 10 weeks. Acupuncture: 10 acupoints were used on the affected and unaffected sides. Manual and electric stimulation (2-5Hz frequency) was provided to the affected side.</p>	<p>At 1 month post-stroke (mid-treatment): (+) Modified Chart for Motor Capacity Assessment (MCMCA) – Walking (+) MCMCA – Balance (-) MCMCA - Motor function (+) Barthel Index At 3 months post-stroke (follow-up): (+) MCMCA – Walking</p>

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		Both groups also received conventional rehabilitation that included daily occupational and physical therapy.	(+) MCMCA – Balance (-) MCMCA - Motor function (+) Barthel Index (+) Nottingham Health Profile (NHP) – Energy level (+) NHP – Mobility (+) NHP – Emotion (+) NHP – Social isolation (-) NHP – Sleep (-) NHP – Pain At 6 months post-stroke (follow-up): (+) NHP – Energy level (+) NHP – Mobility (+) NHP – Emotion (+) NHP – Social isolation (+) NHP – Sleep (-) NHP – Pain At 12 months post-stroke (follow-up): (+) Barthel Index (+) NHP – Mobility (+) NHP – Emotion (-) NHP – Social isolation (-) NHP – Energy level (-) NHP – Sleep (-) NHP – Pain NOTE: At 1 and 3 months, there was a trend toward significance for motor function.
Johansson et al., 2001 PEDro score: 8 Country: Sweden	150 patients with acute stroke	Electroacupuncture (n=48) vs. High-intensity, low-frequency TENS (n=51)	At 3 and at 12 months post-stroke (follow-up): (-) Barthel Index (-) Rivermead Mobility Index

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		<p>vs. Low-intensity high-frequency TENS (n=51) Treatment details: 30-minutes/session, 2 times/week for 10 weeks. Electroacupuncture: 9-10 acupoints were used on the affected and non-affected extremities and scalp. Electric stimulation was provided at low-frequency of 2Hz and amplitude was adjusted to elicit visible muscle contraction. The needles that were not electrically stimulated were manipulated and needle sensation was evoked every 10 minutes for 20 minutes. High-intensity, low-frequency TENS: 2Hz frequency, amplitude strong enough to elicit visible muscle contraction; to the affected side only. Low-intensity, high-frequency TENS: 80Hz frequency, fixed amplitude of 0.4mA, below the perception threshold, no skin sensation and no visible muscle contraction was evoked; to the affected side only. All groups received conventional rehabilitation that included physical, occupational and speech therapy as needed.</p>	<p>(-) Nine Hole Peg Test (-) Nottingham Health Profile</p>
<p>Kim et al., 2004 PEDro score: 6 Country: Korea</p>	<p>32 patients with stroke (recovery period not specified) and insomnia</p>	<p>Intradermal acupuncture (n=16) vs. Sham acupuncture (n=16) Treatment details: Intradermal acupuncture: Four acupoints were used in</p>	<p>At 1 and 2 days post-treatment: (-) Morning Questionnaire (MQ) – sleep latency (+) MQ – sleep quality (+) MQ – condition upon awakening (+) MQ – ability to concentrate (-) MQ – ease of falling asleep (+) MQ – morning sleepiness</p>

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<p>Kjendahl et al., 1997 (follow-up study of Sallstrom et al., 1996) PEDro score: 6 Country: Norway</p>	<p>41 patients with acute/subacute stroke</p>	<p>both upper extremities, needles were fixed with tape for 2 days. Sham acupuncture: Needles were laid down without skin penetration, at the same acupoints and fixed with tape for 2 days.</p> <p>Acupuncture (n=21) vs. No acupuncture (n=20) Treatment details: 30-minutes/session, 3-4 times/week for 6 weeks. <i>Acupuncture:</i> Acupoints selected in compliance with the Chinese Medicine principles for treating stroke in post-acute stage with body and scalp acupuncture. Both groups received conventional multidisciplinary rehabilitation.</p>	<p>(+) Insomnia Severity Index (+) Athens Insomnia Scale</p> <p>At 1 year post-discharge from hospital (follow-up)*: (+) Motor Assessment Scale (+) Sunnaas Index (+) Nottingham Health Profile (NHP) Part 1 – Emotional reactions (+) NHP Part I – Sleep (+) NHP Part I – Physical movement (+) NHP Part I – Loss of energy (-) NHP Part I – Pain (-) NHP Part I – Social isolation (+) NPH Part II NOTE: There was also a trend toward significance for ADL dependency in personal hygiene at 12 months follow-up in favor of the acupuncture group. *refers to changes in scores from baseline.</p>
<p>Li et al., 2014 PEDro score: 6 Country: China</p>	<p>238 patients with acute stroke</p>	<p>Verum acupuncture (n=121) vs. Sham acupuncture (n=117) Treatment details: 20 sessions for 4 weeks (duration of sessions not specified). <i>Verum acupuncture:</i> “Wang’s Jiaju” points were selected from Jiaji (EX-B2); needles were inserted 10-25mm in</p>	<p>At 2 weeks (mid-treatment): (-) Modified Ashworth Scale (-) Fugl-Meyer Assessment (-) Modified Barthel Index (mBI) (-) National Institute of Health Stroke Scale (NIHSS) (-) Stroke Specialization Quality of Life Scale (SS-QOL) (-) Modified Rankin Scale</p>

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		<p>depth and manually manipulated by lifting, thrusting, and rotating methods with uniform reinforcing-reducing technique to produce the sense known as “deqi”.</p> <p><i>Sham acupuncture:</i> Needles were inserted 5mm in depth and remained for 30 minutes without moxibution or electrical stimulation or needling sensation.</p>	<p>At 4 weeks (post-treatment): (+) Modified Ashworth Scale* (+) FMA – Upper & Lower Limbs* (+) mBI* (-) NIHSS (+) SS-QOL* (+) Modified Rankin Scale At 12 weeks (follow-up): (+) Modified Ashworth Scale** (+) FMA – Upper & Lower Limbs** (+) mBI** (-) NIHSS (+) SS-QOL** (-) Modified Rankin Scale *refers to significant differences between the groups in changes of scores as compared to baseline **refers to significant differences between the groups: (1) in changes of scores as compared to baseline; and (2) in scores at the test time.</p>
<p>Liu et al., 2016 PEDro score: 7 Country: China</p>	<p>38 patients with acute stroke</p>	<p>Manual acupuncture (n=18) vs. No acupuncture (n=20) Treatment details: 15-20 minutes/session, 1/day for 2 weeks. <i>Manual acupuncture</i> consisted of applying needs (10-20mm depth) to body (LI11, TE5, LI4, ST36, SP6, LR3) and scalp (n=7) acupoints until sensation de qi was achieved.</p>	<p>At 2 weeks (post-treatment): (-) Functional Independence Measure (FIM) (-) National Institute of Health Stroke Scale (NIHSS) At 3 weeks (follow-up): (-) NIHSS (-) FIM At 1 month (follow-up): (-) FIM (-) Fugl-Meyer Assessment (-) NIHSS</p>

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			At 3 months (follow-up): (-) NIHSS (-) Barthel Index (-) Modified Rankin Scale
Mao et al., 2016 PEDro score: 5 Country: China	105 patients with acute/subacute stroke	Acupuncture + standard swallowing training (n=50) vs. Standard swallowing training (n=55) Treatment details: 30-minutes/session, 5 times/week for 4 weeks. <i>Acupuncture</i> was provided following standard swallowing training and consisted of placing needles into 3 scalp (MS6, MS8, MS9) and 34 body (Jiaji EX B2) acupoints, manipulating them to achieve Deqi sensation, and leaving them in place for 30 minutes before removal. Additional acupoints may have been added depending on phlegm and blood stasis obstructing collaterals pattern. <i>Standard swallowing training</i> consisted of oro-lingual-pharyngeal exercises, postural adjustments, diet modification, and thermal-tactile stimulation provided for 30-minute sessions, 5 times/week for 3 weeks.	At 4 weeks (post-treatment): (+) Video Fluoroscopic Swallowing Study (+) Standardized Swallowing Assessment (-) Royal Brisbane Hospital Outcome Measure for Swallowing
Min et al., 2008 PEDro score: 5 Country: China	60 patients with acute stroke	Acupuncture (n=30) vs. No acupuncture (n=30) Treatment details: 30-60 minutes/session, 5 times/week for 3 months. <i>Acupuncture:</i> Different acupoints and manipulation frequencies (lifting – thrusting and twirling) used	At 3 months (post-treatment): (+) Fugl-Meyer Assessment (FMA) – total (+) FMA – upper extremity (+) FMA – lower extremity (+) Modified Barthel Index

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		depending on the stage of upper extremity paralysis and spasticity using the Brunnstrom scale: early stage of flaccidity, late stage of flaccidity, spasticity, and remission stage. Both groups received conventional rehabilitation for 60-minutes/session, 5 times/week for 3 months, which included one-to-one systemic functional exercises.	
Mukherjee et al., 2005 PEDro score: 3 (crossover study) Country: USA	7 patients with chronic stroke and wrist spasticity	Electroacupuncture vs. No electroacupuncture Treatment details: 30-40 minutes/session, 2 times/week for 6 weeks. <i>Electroacupuncture:</i> Electrical stimulation was provided at 2Hz frequency. 6 acupoints on the affected upper extremity were used. Needles were inserted at 90 degrees angle, 10-15 mm in depth. Both groups received strengthening exercises for 30-45 minutes/session, 2 times/week for 6 weeks using the Biodex multijoint System 3 Pro [®] exercise regimen that included active assisted, isokinetic, isometric exercises with progressive difficulty.	At 6 weeks (post-treatment): (+) Position sensitivity of the average speed-dependent reflex torque or segment of the wrist extension at 45°, 60° and 75° of angular velocity (-) Velocity sensitivity of the averaged speed-dependent reflex torque* (-) Modified Ashworth Scale* (-) Integrated electromyographic activity of the affected wrist flexors during passive stretch of the joint* *No between-groups analysis performed on these outcomes.
Naeser et al., 1992 PEDro score: 6 Country: USA	16 patients with subacute stroke	Electroacupuncture (n=10) vs. Sham acupuncture (n=6) Treatment details: 20-minutes/session, 5 times/week for 4 weeks.	At 4 weeks (post-treatment): (-) Isolated active range of motion (good response) Subgroup analysis (those with less than half of motor pathway areas lesioned vs. those with more than half): (+) Isolated active range of motion (good response) in favor of the real acupuncture group, in the subgroup

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		<p><i>Electroacupuncture:</i> Low-frequency (1-2Hz) electrical stimulation to 11 acupoints on the bilateral extremities and scalp.</p> <p><i>Sham acupuncture:</i> Time-matched intervention. Needles were inserted only to the unaffected extremities and no electrical current was provided.</p>	<p>with lesion in half or less than half of motor pathway areas</p>
<p>Park et al., 2005 PEDro score: 8 Country: England</p>	<p>116 patients with acute stroke</p>	<p>Manual acupuncture (n=56) vs. Sham acupuncture (n=60) Treatment details: 20-minutes/session for 2 weeks (frequency per week not specified). <i>Manual acupuncture:</i> Needles manually stimulated to “de qi” sensation at 10 acupoints. <i>Sham acupuncture:</i> time-matched; non-penetrating needles that gave impression of insertion.</p>	<p>At 2 weeks (post-treatment): (-) Barthel Index (-) National Institutes of Health Stroke Scale (-) Motricity index (+) Bedside Swallowing Screening Test* (-) Modified Ashworth Scale (-) Nottingham Extended ADL (-) 10 Meter Walk Test (-) Nine Hole Peg Test (-) EuroQoL-5 dimensional form (-) EuroQoL-VAS *In favor of the control group, where the intervention group presented with higher number of patients with unsafe swallow.</p>
<p>Pei et al., 2001 PEDro score: 4 Country: China</p>	<p>86 patients with acute stroke</p>	<p>Electroacupuncture (n=43) vs. No acupuncture (n=43) Treatment details: 1 session/day, 5 days/week, for 4 weeks. <i>Electro-acupuncture:</i> Details of intervention not provided. Both groups also received conventional rehabilitation.</p>	<p>At 1 week of treatment: (+) Fugl-Meyer Assessment (+) Barthel Index (-) Chinese Stroke Scale At 2 weeks (mid-treatment): (+) Fugl-Meyer Assessment (+) Barthel Index (+) Chinese Stroke Scale</p>

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			<p>At 4 weeks (post-treatment): (+) Fugl-Meyer Assessment (+) Barthel Index (+) Chinese Stroke Scale At 3 months (follow-up): (+) Fugl-Meyer Assessment (+) Barthel Index (+) Chinese Stroke Scale</p>
<p>Rorsman & Johansson, 2006 PEDro score: 8 Country: Sweden</p>	<p>54 patients with acute stroke</p>	<p>Acupuncture including electroacupuncture (n=18) vs. High-intensity low-frequency TENS (n=19) vs. Low-intensity high-frequency subliminal TENS (n=17) Treatment details: 30-minutes/session, 2 times/week for 10 weeks. <i>Acupuncture including electroacupuncture:</i> 9-10 acupoints on the unaffected and affected sides of the body and scalp. Low-frequency (2Hz) electrical stimulation was provided with amplitude strong enough to elicit visible muscle contraction. The non-stimulated needles were manipulated until needle sensation was evoked every 10 minutes for 30 minutes. <i>High-intensity low-frequency TENS:</i> Cefar dual TENS stimulator and adhesive electrodes were used. Frequency set at 2Hz, and amplitude strong enough to elicit visible muscle contraction. <i>Low-intensity high-frequency subliminal TENS:</i> Cefar dual TENS stimulator and adhesive electrodes were used. Frequency set at 80Hz, and fixed amplitude of</p>	<p>At 3 and 12 months post-stroke (follow-up): (-) Mini Mental State Examination (-) Rey Auditory Verbal Learning Test (-) Facial Recognition Memory (-) Star Cancellation Test (-) Time Perception (-) Token Test (-) FAS Word Fluency Test (-) Hospital Anxiety and Depression Scale (-) Comprehensive Psychiatric Rating Scale (-) Number of patients taking benzodiazepines and antidepressants</p>

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		0.4mA (no skin sensation and no visible muscle contraction).	
Sallstrom et al., 1996 PEDro score: 6 Country: Norway	45 patients with acute/subacute stroke	Electroacupuncture (n=24) vs. No acupuncture (n=21) Treatment details: 30-minutes/sessions, 3-4 times/week for 6 weeks. <i>Acupuncture:</i> Acupoints (body and scalp) selected in compliance with the traditional Chinese medical principles for treating stroke in the postacute phase. Scalp acupoints were treated with electrical stimulation (2-4 Hz). When indicated, moxibustion was added. The non-electrically stimulated needles were manually tonified or sedated. Both groups also received individualised conventional rehabilitation for 6 weeks.	At 6 weeks (post-treatment): (+) Motor Assessment Scale (+) Sunnaas Index (-) Nottingham Health Profile (NHP) Part I – Emotional reactions (+) NHP Part 1 – Sleep (+) NHP Part 1 – Loss of energy (-) NHP Part 1 – Pain (-) NHP Part 1 – Physical movement (-) NHP Part 1 – Social isolation (-) NHP Part II
Schaechter et al., 2007 PEDro score: 6 Country: USA	7 patients with chronic stroke	Acupuncture + electroacupuncture (n=4) vs. Sham acupuncture + sham electroacupuncture (n=3) Treatment details: 2 times/week for 10 weeks. <i>Acupuncture + electroacupuncture:</i> Manual acupuncture of body and scalp points, and electroacupuncture to body points. <i>Sham acupuncture + sham electroacupuncture:</i> Time-matched non-penetrating, retractable needle and disconnected electrical stimulator.	At 12 weeks (2 weeks post-treatment): (-) Modified Ashworth Scale of the affected upper limb (-) Active-assisted range of motion of the affected upper limb

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
Schuler et al., 2005 PEDro score: 7 Country: Germany	120 patients with acute/subacute stroke	Electroacupuncture (n=41) vs. Placebo acupuncture (n=40) vs. No acupuncture (n=39) Treatment details: 30-minutes/session, 2 times/week for 4 weeks. <i>Electroacupuncture:</i> Needling of acupuncture points with electrical stimulation. <i>Placebo acupuncture:</i> Time-matched intervention. Surface electrodes on acupuncture points with visual stimulation.	At 4 weeks (post-treatment) and 6 months (follow-up): (-) European Stroke Scale (-) Barthel Index
Si et al., 1998 PEDro score: 5 Country: China	42 patients with acute stroke	Electroacupuncture (n=21) vs. No electroacupuncture (n=21) Treatment details: 30 minutes/session, 5 days/week followed by a rest period of 2 days – cycle repeated until discharged (37±12 days). <i>Electroacupuncture:</i> applied to 6 acupoints on the hemiplegic side, manual twirling was used until the sensation deqi. Needles were stimulated by a G6805 electrostimulator (3.0mA in intensity, 5/45Hz in frequency).	At discharge (37±12 days): (+) Chinese Stroke Scale (CSS) – total (+) CSS - Motor shoulder (+) CSS - Motor hand (+) CSS - Motor leg (-) CSS - Level of consciousness (-) CSS - Extraocular movements (-) CSS - Facial palsy (-) CSS - Speech (-) CSS – Walking capacity
Sze et al., 2002 PEDro score: 7 Country: China	106 patients with acute stroke	Chinese manual acupuncture (Group IB and Group IIB, n=53) vs. No acupuncture (Group IA and Group IIA, n=53)	At 10 weeks (post-treatment): (-) Fugl-Meyer Assessment (-) Barthel Index (-) Functional Independence Measure

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		<p>Treatment details: 30 minutes/session, 5 times/week for 10 weeks. <i>Acupuncture:</i> The main acupoints were: (1) Jianyu-LI15, (2) Quchi-LI11, (3) Shousanli-LI10, (4) Hegu-LI4, and (5) Waiguan-TE5 (upper limb), and (6) Huantiao-GB30, (7) Yanglingquan-GB34, (8) Zusanli-S36, (9) Jiexi-S41, and (10) Kunlun-B60 (lower limb). Kingli sterile, disposable No. 30 (0.3 mm) and 32 (0.25 mm) needles, 40 mm in length, were used. Once a characteristic aching, tingling sensation (“teh-chi”) was elicited, the needle would be kept in situ for 30 minutes without continuous or intermittent stimulation either manually or by electric means. All patients also received conventional rehabilitation for 6 weeks.</p>	
<p>Tan et al., 2013 PEDro score: 7 Country: China</p>	<p>63 patients with acute stroke</p>	<p>Electroacupuncture (n=32) vs. No electroacupuncture (n=31) Treatment details: 20-minutes/session, 6 days/week for 2 weeks. <i>Electroacupuncture:</i> Triple-stimulation technique (TST) was used (linking the central to peripheral conduction and suppressing desynchronization of the motor evoked potentials); 12 acupoints of the hemiparetic upper (UE) and lower extremities (LE) were selected: UE – Jianyu (LI 15), Jianliao (TE 14), Quchi (LI 11), Hegu, (LI 4), Chize (LU 5), Neiguan (PC 6); LE – Zusanli (ST 36), Yanglingquan (GB 34), Fenglong (ST 40), Xuanzhong (GB 39), Sanyinjiao (SP 6), Taichung (LR 3).</p>	<p>At 14 days (post-treatment): (+) Modified Edinburg-Scandinavian Stroke Scale (+) TST_{ratio} – percentage of central motor-conduction failure (+) National Institutes of Health Stroke Scale (+) Fugl-Meyer Assessment</p>

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		Electrodes of G6805-2 electric stimulation were used at 20Hz frequency.	
Wang et al., 2014 PEDro score: 5 Country: China	340 patients with acute stroke	Electroacupuncture (n=170) vs. No electroacupuncture (n=170) Treatment details: 4 weeks <i>Electroacupuncture:</i> traditional standardized acupuncture compiled by apoplexy coordination group in the National 11 th 5-year plan. Selected acupoints, frequency of electrical stimulation, and frequency of treatment not specified. Both groups received conventional western medical care (pharmacotherapy, nursing care, rehabilitation services).	At 4 weeks (post-treatment): (+) NIHSS At 3 months (follow-up): (-) NIHSS (-) Barthel Index At 6 months (follow-up): (+) Barthel Index (+) Number of re-hospitalized patients (+) Patients persisting in acupuncture or rehabilitation treatments
Wayne et al., 2005 PEDro score: 8 Country: USA	33 patients with chronic stroke	Acupuncture (n=16) vs. Sham acupuncture (n=17) Treatment details: 60-minutes/session for 10 weeks. Acupuncture: Manual stimulation was applied on body parts until “de qi” sensation was obtained. Electric stimulation was applied to points on the affected limbs (frequency not reported). Scalp acupuncture was directed at sensory and motor components of the affected limb. Needling was performed on the side opposite the affected limb.	At 12 weeks (post-treatment): Intention-to-treat analysis: (-) Fugl-Meyer Assessment (-) Modified Ashworth Scale (MAS) elbow scores (-) MAS – wrist scores (-) Grip strength (-) Range of motion (ROM) shoulder in the sagittal plane (-) ROM shoulder in the frontal plane (-) ROM shoulder in the transverse plane (-) ROM elbow in the sagittal plane (-) ROM forearm in the transverse plane (-) ROM wrist in the sagittal plane (-) ROM wrist in the frontal plane

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		Sham acupuncture: Retractable needles that did not penetrate the skin.	(-) ROM thumb (-) ROM digit (-) Barthel Index (-) Center for Epidemiological Surveys Depression (-) Nottingham Health Profile Per-Protocol analysis: (-) Fugl-Meyer Assessment (-) MAS elbow scores (+) MAS wrist scores (-) Grip strength (-) ROM shoulder in the sagittal plane (+) ROM shoulder in the frontal plane (-) ROM shoulder in the transverse plane (-) ROM elbow in the sagittal plane (-) ROM forearm in the transverse plane (+) ROM wrist in the sagittal plane (+) ROM wrist in the frontal plane (-) ROM thumb (-) ROM digit (-) Barthel Index (-) Center for Epidemiological Surveys Depression (+) Nottingham Health Profile NOTE: Trends toward significance were found for both FMA and digit ROM in the per-protocol analyses.
Wong et al., 1999 PEDro score: 5 Country: Taiwan	118 patients with acute stroke	Electroacupuncture (n=59) vs. No electroacupuncture (n=59) Treatment details: 5 sessions/week for 2 weeks.	At 2 weeks (post-treatment): (+) Brunnstrom's upper limb motor recovery (+) Brunnstrom's lower limb motor recovery (+) Functional Independence Measure (FIM) – Total (+) FIM - Self-care

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		Electroacupuncture: applied to the more affected side.	(+) FIM – Locomotion (-) FIM - Sphincter (-) FIM – Transfers (-) FIM – Communication (-) FIM - Social interaction
Xia et al., 2016 PEDro score: Country: China	124 patients with acute stroke and dysphagia	Acupuncture (n=62) vs. No acupuncture (n=62) Treatment details: 30-minute sessions, 6 times/week for 4 weeks. Acupuncture combined with standard swallowing training consisted of acupoints on the nape, scalp and tongue areas (n=12) where needles (n=16) were inserted 10-30 mm in depth, manually manipulated to obtain the de qi sensation. Acupuncture was provided after the standard swallowing training. Both groups received standard swallowing training that consisted of active and passive exercises of the oral, facial, and lingual muscles, sensory stimuli, and specialized techniques (e.g. Shaker exercise).	At 4 weeks (immediately post-treatment): (+) Standardized Swallowing Assessment (+) Dysphagia Outcome Severity Scale (+) Modified Barthel Index (+) Swallowing-Related Quality of Life Scale
Zhang et al., 2015 PEDro score: 8 Country: China	862 patients with acute stroke	Acupuncture (n=427) vs. No acupuncture (n=435) Treatment details: 5 times/week for 3-4 weeks (pilot study) or 3 weeks (main study). Acupuncture: Huato acupuncture needles were used. Acupoints included Renzhong (DU26), Neiguan (PC6),	At 3 weeks (post-treatment) (+) Scandinavian Stroke Scale At 3 months (follow-up): (-) Death or dependency (Barthel Index) (-) Death or institutional care (-) Death At 6 months (follow-up): (+) Death or dependency (Barthel Index)*

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
Zhu et al., 2013 PEDro score: 8 Country: China	188 patients with acute stroke	<p>Sanyinjiao (SP6), Baihui (DU20), Zusanli (ST36), Fenglong (ST40), Taichong (LK3), Chize (LL5), Fengchi (GB20), Qihai (RN6).</p> <p>Both groups also received routine ischemic stroke treatment using medication and prevention of complications; rehabilitation was provided in centers where it was available.</p> <p>Acupuncture (n=98) vs. No acupuncture (n=90)</p> <p>Treatment details: Acupuncture: applied to 10 acupoints: Jiquan (HT1), Neiguan (PC6), Hegu (LI4), Baxie (EX-UE9), Baiguan (ST31), Futu (ST32), Yinlingquan (SP9), Sanyinjiao (SP6), Zusanli (ST36), Taichong (LV3) + 2 scalp acupoints MS6 and MS7. Body acupuncture: 10-15 mm depth insertion of needles at 90 degrees, 90-120 times/minute rate of twirling, performed an average of 42.6 x 30-minute sessions, once/day, 5 days/week for 1 month and 2-3 days/week for 2nd and 3rd months. Scalp acupuncture: 32 mm depth insertion of needles at 15 degrees, 200 times/minute rate of twirling for 2 minutes, performed an average of 22.5 x 30-minute sessions, once/day, 2-3 days/week for 2nd and 3rd months. Both groups received conventional rehabilitation for 4-hour sessions, 5 times/week for 3 months.</p>	<p>(-) Death or institutional care (-) Death Significant results refer to change scores from baseline to post-treatment *Significant only for patients who received no less than 10 sessions of acupuncture.</p> <p>At 1 month (during treatment): (-) Fugl-Meyer Assessment – lower extremities (FMA-LE) (-) Fugl-Meyer Assessment – upper extremities (FMA-UE) (-) Barthel Index At 3 months (post-treatment): (-) FMA-LE (-) FMA-UE (-) Barthel Index At 6 months (follow-up): (-) FMA-LE (-) FMA-UE (-) Barthel Index</p>

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
Zhuang et al., 2012 PEDro score: 7 Country: China	265 patients with acute/subacute stroke	<p>Acupuncture (n=99) vs. Conventional rehabilitation (n=96) vs. Acupuncture + conventional rehabilitation (n=100)</p> <p>Treatment details: 30 minutes/session, 6 days/week for 4 weeks. Acupuncture: Needles in situ at 3 primary scalp points on the side of the stroke and secondary acupoints based on the traditional Chinese Medicine theory: upper and lower limb points depending on muscle tone (flaccid vs. spastic). Conventional rehabilitation: 60-minutes/session (physiotherapy) + 45-minutes/session (occupational therapy), 6 days/week for 4 weeks. Physiotherapy and occupational therapy based on the Bobath approach.</p>	<p>At 2 weeks (mid-treatment): (-) Fugl-Meyer Assessment (-) Modified Barthel Index (-) Neurologic Defect Scale At 4 weeks (post-treatment): (-) Fugl-Meyer Assessment (-) Modified Barthel Index (-) Neurologic Defect Scale</p>