

Table S1. Risk of Bias among included randomized controlled trials

First author, year	Random sequence generation	Allocation concealment	Blinding of participants and personnel	Blinding of outcome assessment	Incomplete outcome data addressed	Selective outcome reporting
Maeda 2017 ²⁶	<u>Low risk</u> Random sequence was generated by computer.	<u>Unclear risk</u> Authors did not state details.	<u>Low risk</u> Sham acupuncture was used to blind patients.	<u>High risk</u> Outcome assessment was based on subjective outcome reported by patients, who were unblinded after the completion of treatment and before the follow-up.	<u>High risk</u> Twenty-four (30.4%) lost-to- follow-up or drop-out cases.	<u>Low risk</u> Registered protocol is available.
Chung 2016 ¹⁸	<u>Low risk</u> Random sequence was generated by computer.	<u>Low risk</u> Sequences were sealed in opaque envelopes.	<u>High risk</u> Blinding of patients and personnel were not possible.	<u>High risk</u> Outcome assessment was based on subjective outcome reported by patients.	<u>Low risk</u> Seven (3.9%) lost-to-follow-up or drop-out cases.	<u>Low risk</u> Registered protocol is available.
Cai 2016 ³⁵	<u>Low risk</u> Random sequence was generated from	<u>Unclear risk</u> Authors did not state details.	<u>High risk</u> Blinding of patients and personnel were	<u>High risk</u> Outcome assessment was based on subjective outcome reported	<u>Low risk</u> Zero (0%) lost- to-follow-up or	<u>Unclear risk</u> Protocol was unavailable.

First author, year	Random sequence generation	Allocation concealment	Blinding of participants and personnel	Blinding of outcome assessment	Incomplete outcome data addressed	Selective outcome reporting
	a table of random numbers.		not possible.	by patients.	drop-out case.	
Hadianfard 2015 ¹⁷	<u>Low risk</u> Random sequence was generated by computer.	<u>Unclear risk</u> Authors did not state details.	<u>High risk</u> Blinding of patients and personnel were not possible.	<u>High risk</u> Outcome assessment was based on subjective outcome reported by patients.	<u>Low risk</u> Zero (0%) lost- to-follow-up or drop-out case.	<u>Unclear risk</u> Protocol was unavailable.
Koca 2014 ³⁷	<u>High risk</u> Sequence was the order of admission.	<u>High risk</u> Researchers could foresee the allocation sequence.	<u>High risk</u> Blinding of patients and personnel were not possible.	<u>High risk</u> Outcome assessment was based on subjective outcome reported by patients.	<u>High risk</u> Twelve (16.0%) lost-to-follow-up or drop-out cases.	<u>Unclear risk</u> Protocol was unavailable.
Ding 2013 ³⁶	<u>Unclear risk</u> Method for sequence generation is not reported.	<u>Unclear risk</u> Authors did not state details.	<u>High risk</u> Blinding of patients and personnel were not possible.	<u>High risk</u> Outcome assessment was based on subjective outcome reported by patients.	<u>High risk</u> Six (13.6%) lost- to-follow-up or drop-out cases.	<u>Unclear risk</u> Protocol was unavailable.

First author, year	Random sequence generation	Allocation concealment	Blinding of participants and personnel	Blinding of outcome assessment	Incomplete outcome data addressed	Selective outcome reporting
Yao 2012 ²⁵	<u>Low risk</u> Random sequence was generated by computer.	<u>Unclear risk</u> Authors did not state details.	<u>Low risk</u> Sham acupuncture was used to blind patients.	<u>Low risk</u> Subjective outcomes were reported by blinded patients.	<u>High risk</u> Seven (17.1%) lost-to-follow-up or drop-out cases.	<u>Unclear risk</u> Protocol was unavailable.
Yang 2011 ¹⁶	<u>Low risk</u> Random sequence was generated by computer.	<u>Low risk</u> Allocation codes were kept by personnel who were uninvolved in the trial.	<u>High risk</u> Blinding of patients and personnel were not possible.	<u>High risk</u> Outcome assessment was based on subjective outcome reported by patients.	<u>Low risk</u> Seven (9.1%) lost-to-follow-up or drop-out case.	<u>Unclear risk</u> Protocol was unavailable.
Kumnerddee 2010 ¹⁵	<u>Low risk</u> Random sequence was generated by computer.	<u>Unclear risk</u> Authors did not state details.	<u>High risk</u> Blinding of patients and personnel were not possible.	<u>High risk</u> Outcome assessment was based on subjective outcome reported by patients.	<u>Low risk</u> One (1.6%) drop- out case.	<u>Unclear risk</u> Protocol was unavailable.
Zhang 2009 ³⁴	<u>Low risk</u>	<u>Unclear risk</u>	<u>High risk</u>	<u>High risk</u>	<u>Low risk</u>	<u>Unclear risk</u> Protocol was

First author, year	Random sequence generation	Allocation concealment	Blinding of participants and personnel	Blinding of outcome assessment	Incomplete outcome data addressed	Selective outcome reporting
	Random sequence was generated by random number table.	Authors did not state details.	Blinding of Blinding of patients and personnel were not possible.	Outcome assessment was based on subjective outcome reported by patients.	Zero (0%) lost- to-follow-up or drop-out case.	unavailable.

Appendix 1. Detailed search strategies for online databases

Search strategy of Cochrane Central Register of Controlled Trials (CENTRAL) database

- 1 exp Carpal Tunnel Syndrome/
- 2 carpal tunnel syndrome*.mp.
- 3 exp Nerve Compression Syndromes/
- 4 nerve compression syndrome*.mp.
- 5 nerve compress*.mp.
- 6 nerve entrapment*.mp.
- 7 entrapment neuropath*.mp.
- 8 exp Median Nerve/
- 9 median nerve*.mp.
- 10 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9
- 11 exp Acupuncture/
- 12 acupunctur*.mp.
- 13 exp Acupuncture Analgesia/
- 14 exp Acupuncture Points/
- 15 exp Acupuncture Therapy/
- 16 exp Electroacupuncture/
- 17 electroacupunctur*.mp.
- 18 electro-acupunctur*.mp.
- 19 acupoint*.mp.
- 20 exp Transcutaneous Electric Nerve Stimulation/
- 21 Transcutaneous Electric Nerve Stimulat*.mp.
- 22 percutaneous electrical nerve stimulat*.mp.
- 23 TENS.mp.
- 24 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23
- 25 10 and 24

Search strategy of MEDLINE database

- 1 exp Carpal Tunnel Syndrome/
- 2 carpal tunnel syndrome*.mp.
- 3 exp Nerve Compression Syndromes/
- 4 nerve compression syndrome*.mp.
- 5 nerve compress*.mp.
- 6 nerve entrapment*.mp.

7 entrapment neuropath*.mp.
 8 exp Median Nerve/
 9 median nerve*.mp.
 10 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9
 11 exp Acupuncture/
 12 acupunctur*.mp.
 13 exp Acupuncture Points/
 14 exp Acupuncture Therapy/
 15 exp Acupuncture Analgesia/
 16 exp Electroacupuncture/
 17 electroacupunctur*.mp.
 18 electro-acupunctur*.mp.
 19 acupoint*.mp.
 20 exp Transcutaneous Electric Nerve Stimulation/
 21 Transcutaneous Electric Nerve Stimulat*.mp.
 22 percutaneous electrical nerve stimulat*.mp.
 23 TENS.mp.
 24 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23
 25 clinical trial.mp.
 26 clinical trial.pt.
 27 random:.mp.
 28 tu.xs.
 29 25 or 26 or 27 or 28
 30 10 and 24 and 29
 31 limit 30 to humans

Search strategy of EMBASE database

1 exp carpal tunnel syndrome/
 2 carpal tunnel syndrome*.mp.
 3 exp nerve compression/
 4 nerve compression syndrome*.mp.
 5 nerve compress*.mp.
 6 nerve entrapment*.mp.
 7 entrapment neuropath*.mp.
 8 exp median nerve/
 9 median nerve*.mp.
 10 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9

- 11 exp acupuncture/
- 12 acupunctur*.mp.
- 13 exp acupuncture analgesia/
- 14 exp acupuncture needle/
- 15 exp electroacupuncture/
- 16 electroacupunctur*.mp.
- 17 electro-acupunctur*.mp.
- 18 acupoint*.mp.
- 19 exp transcutaneous nerve stimulation/
- 20 Transcutaneous Electric Nerve Stimulat*.mp.
- 21 percutaneous electrical nerve stimulat*.mp.
- 22 TENS.mp.
- 23 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22
- 24 random:.tw.
- 25 clinical trial:.mp.
- 26 exp health care quality/
- 27 24 or 25 or 26
- 28 10 and 23 and 27
- 29 limit 28 to human

Search strategy of CINAHL PLUS database

- 1 (MH "Carpal Tunnel Syndrome")
- 2 "carpal tunnel syndrome"
- 3 (MH "Nerve Compression Syndromes+")
- 4 "nerve compression syndrome"
- 5 "entrapment neuropathy"
- 6 "nerve entrapment"
- 7 (MH "Median Nerve")
- 8 "median nerve"
- 9 S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8
- 10 (MH "Acupuncture+")
- 11 "acupuncture"
- 12 (MH "Acupuncture Analgesia")
- 13 (MH "Acupuncture Analgesia")
- 14 (MH "Electroacupuncture")
- 15 "electroacupuncture"
- 16 "electro-acupuncture"

17 "acupoint"
18 (MH "Transcutaneous Electric Nerve Stimulation")
19 "transcutaneous electrical nerve stimulation"
20 "percutaneous electrical nerve stimulation"
21 "TENS"
22 S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21
23 (MM "Randomized Controlled Trials")
24 (MM "Clinical Trials+")
25 "randomized controlled trials"
26 "clinical trial"
27 "comparative trial"
28 S23 OR S24 OR S25 OR S26 OR S27
29 S9 AND S22 AND S28

Search strategy of CINAHL COMPLETE

1 (MH "Carpal Tunnel Syndrome")
2 "carpal tunnel syndrome"
3 (MH "Nerve Compression Syndromes+")
4 "nerve compression syndrome"
5 "entrapment neuropathy"
6 "nerve entrapment"
7 (MH "Median Nerve")
8 "median nerve"
9 S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8
10 (MH "Acupuncture+")
11 "acupuncture"
12 (MH "Acupuncture Analgesia")
13 (MH "Acupuncture Analgesia")
14 (MH "Electroacupuncture")
15 "electroacupuncture"
16 "electro-acupuncture"
17 "acupoint"
18 (MH "Transcutaneous Electric Nerve Stimulation")
19 "transcutaneous electrical nerve stimulation"
20 "percutaneous electrical nerve stimulation"
21 "TENS"

22 S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21
23 (MM "Randomized Controlled Trials")
24 (MM "Clinical Trials+")
25 "randomized controlled trials"
26 "clinical trial"
27 "comparative trial"
28 S23 OR S24 OR S25 OR S26 OR S27
29 S9 AND S22 AND S28

Search strategy of PsycINFO database

1 carpal tunnel syndrome*.mp.
2 nerve compression syndrome*.mp.
3 nerve compress*.mp.
4 nerve entrapment*.mp.
5 entrapment neuropath*.mp.
6 median nerve entrapment*.mp.
7 median nerve*.mp.
8 1 or 2 or 3 or 4 or 5 or 6 or 7
9 exp Acupuncture/
10 acupunctur*.mp.
11 electroacupunctur*.mp.
12 electro-acupunctur*.mp.
13 percutaneous electrical nerve stimulat*.mp.
14 Transcutaneous Electric Nerve Stimulat*.mp.
15 acupoint*.mp.
16 TENS.mp.
17 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16
18 control:.tw.
19 random:.tw.
20 exp treatment/
21 18 or 19 or 20
22 8 and 17 and 21
23 limit 22 to human

Search strategy of Wanfang database (万方数据知识服务平台)

("临床试验" OR "对照试验" OR "随机" OR "临床观察" OR "临床科研" OR "RCT" OR "随机对照试验") AND ("腕管综合征" OR "腕管综合症" OR "腕隧道症候群" OR "腕隧道征候群" OR "腕道症候群" OR "腕道征候群" OR "腕隧道綜合症" OR "腕隧道綜合征" OR "腕道综合征" OR "腕道综合症") AND ("针灸" OR "针刺" OR "电针" OR "耳针" OR "头针" OR "水针")

Search strategy of Chinese Biomedical Literature Database (CBM)

(中國生物醫學文獻服務系統)

("临床试验"[全字段] OR "对照试验"[全字段] OR "随机"[全字段] OR "临床观察"[全字段] OR "临床科研"[全字段] OR "RCT"[全字段] OR “随机对照试验”[全字段]) AND ("针灸"[全字段] OR "针刺"[全字段] OR "电针"[全字段] OR "耳针"[全字段] OR “头针”[全字段] OR “水针”[全字段]) AND ("腕管综合征"[全字段] OR "腕管综合症"[全字段] OR "腕隧道症候群"[全字段] OR "腕隧道征候群"[全字段] OR "腕道症候群"[全字段] OR "腕道征候群"[全字段] OR "腕隧道綜合症"[全字段] OR "腕隧道綜合征"[全字段] OR "腕道综合征"[全字段] OR "腕道综合症"[全字段])

Search strategy of Taiwan Periodical Literature databases (期刊文獻資訊網)

(TX=臨床試驗 OR 對照試驗 OR 隨機 OR 臨床觀察 OR 臨床科研 OR RCT OR 隨機對照試驗) [AND] (TX=針灸 OR 針刺 OR 電針 OR 耳針 OR 頭針 OR 水針) [AND] (TX=腕管综合征 OR 腕管综合症 OR 腕隧道症候群 OR 腕隧道征候群 OR 腕道症候群 OR 腕道征候群 OR 腕隧道綜合症 OR 腕隧道綜合征 OR 腕道综合征 OR 腕道综合症)

Appendix 2. List of excluded studies and reason for exclusion

1. Wang Y, Bai YC. Treating Carpal Tunnel Syndrome by Acupuncture Combined with Chinese Medicine Paraffin [in Chinese]. Journal of Changchun University of Chinese Medicine. 2016;32(3):552-554. doi:10.13463/j.cnki.cczyy.2016.03.041. **Reason for exclusion:** Patients have received CTS surgery prior to enrolment.
2. Conti S. Tui Na and plum-blossom needle in Treating Carpal Tunnel Syndrome. A Clinical Observation of 7 Cases [in Chinese]. Foreign Medical Sciences. 1998;20(2):54. **Reason for exclusion:** Not a RCT design.
3. Belitskaia RA, Vasilenko GF, Krasnova LB, Popkova EV, Chuzavkova EA, Agasarov LG. The effect of pharmacopuncture on the blood biochemical indices of patients with tunnel syndromes of the hands. Voprosy kurortologii, fizioterapii, i lechebnoi fizicheskoi kultury. 1999(5):14-17. **Reason for exclusion:** Not a RCT design.
4. Xia Q, Liu XW, Wang XL, Tao Y. Efficacy observation of carpal tunnel syndrome treated with electroacupuncture. Zhongguo zhen jiu= Chinese Acupuncture & Moxibustion. 2013;33(8):700-702. **Reason for exclusion:** Not a RCT design.
5. Kara M, Özçakar L, Gökçay D, Özçelik E, Yörübulut M, Güneri S, et al. Quantification of the effects of transcutaneous electrical nerve stimulation with functional magnetic resonance imaging: a double-blind randomized placebo-controlled study. Archives of Physical Medicine and Rehabilitation. 2010;91(8):1160-5. doi: <https://doi.org/10.1016/j.apmr.2010.04.023>. **Reason for exclusion:** Not a RCT design.
6. Maeda Y, Kettner N, Lee J, Kim J, Cina S, Malatesta C, et al. Acupuncture-evoked response in somatosensory and prefrontal cortices predicts immediate pain reduction in carpal tunnel syndrome. Evidence-Based Complementary and Alternative Medicine. 2013;2013. doi: <http://dx.doi.org/10.1155/2013/795906>. **Reason for exclusion:** Not a RCT design.
7. Lim JA, Kim SN, Lee SY, Moon HC, Kim SC. Clinical study on treatment of Carpal tunnel syndrome using Scolopendrid herbal acupuncture. Journal of Pharmacopuncture. 2005;8(1):13-20. doi: 10.3831/KPI.2005.8.1.013. **Reason for exclusion:** Not a RCT design.
8. Zeng Y. Acupuncture plus Manual Acupuncture for the Treatment of 58 Carpal Tunnel Syndrome [in Chinese]. Medical Information 2014;27(9):447-48. **Reason for exclusion:** No results on validated outcome reported.

9. Feng YP, Shi L. Acupuncture for the Treatment of 50 Carpal Tunnel Syndrome [in Chinese]. Chinese Journal of Basic Medicine in Traditional Chinese Medicine 2011;17(6):670-71. **Reason for exclusion:** No results on validated outcome reported.
10. Zhou FO. Treatment of Carpal Tunnel Syndrome by Ginger Moxibustion Combined with Drugs: A Clinical Observation of 64 Cases [in Chinese]. Chinese Journal of Clinical Rational Drug Use. 2011;4(10A):59-60. **Reason for exclusion:** No results on validated outcome reported.
11. Shi YS, Fang W, Zhao XY, et al. Control Study on Effect of Pricking Collateral Blood Therapy Combined with Massage on Mild Carpal Tunnel Syndrome [in Chinese]. Chinese Journal of Integrated Traditional and Western Medicine. 2006;26(6):497-99. **Reason for exclusion:** No results on validated outcome reported.
12. Jin LQ, Lang BX. Effect of Electroacupuncture plus Acupoint Injection in Treating Carpal Tunnel Syndrome of Early Stage [in Chinese]. Shanghai Journal of Acupuncture and Moxibustion. 2011;30(7):464-66. **Reason for exclusion:** No results on validated outcome reported.
13. Duan QM, Zhang L, Wang R, Zhang L. Combination of electroacupuncture and physical therapy for Carpal Tunnel Syndrome. Efficacy and care observation [in Chinese]. Journal of Nurses Training. 2014;29(7):660-661. **Reason for exclusion:** Net effect of acupuncture cannot be isolated from the comparison
14. Wang YS, Guo XW, Qin XY. Observe acute carpal tunnel syndrome's non-operative treatment, clinical curative effect and feasibility. Jilin Medical Journal. 2013;34(30):6215-6216. **Reason for exclusion:** Net effect of acupuncture cannot be isolated from the comparison.
15. Wang YD. Chinese Medicine Acupuncture for Carpal Tunnel Syndrome. An Efficacy Study [in Chinese]. Journal of Clinical Medical Literature. 2015;2(5):890-891. **Reason for exclusion:** Net effect of acupuncture cannot be isolated from the comparison.
16. Song AQ, Zhang YP. Electroacupuncture coordinated with TDP and partial braking for the Treatment of 40 Carpal Tunnel Syndrome Cases [in Chinese]. Guangming Journal of Chinese Medicine. 2013;28(2):332-333. **Reason for exclusion:** Net

effect of acupuncture cannot be isolated from the comparison.

17. Cai DF. Warm Needle and Manipulation Treatment for Carpal Tunnel Syndrome [in Chinese]. Information on Traditional Chinese Medicine. 2007;24(5):56-57. **Reason for exclusion:** Net effect of acupuncture cannot be isolated from the comparison.
18. Han F, Xiao YL. The massage technique coordination acupuncture treatment canalis carpi synthesis drafts 42 example. Chinese Manipulation and Rehabilitation Medicine. 2011;2(8):84-84. **Reason for exclusion:** Net effect of acupuncture cannot be isolated from the comparison.
19. Hu NW, Liu JY, Wang FM. Clinical Observation of Acupuncture and Chinese Medicine for Treating Carpal Tunnel Syndrome [in Chinese]. Acta Chinese Medicine and Pharmacology. 2000;28(3):57-58. **Reason for exclusion:** Net effect of acupuncture cannot be isolated from the comparison.
20. Cai DF. Warm-needling plus Tuina Relaxing for the Treatment of Carpal Tunnel Syndrome. Journal of Traditional Chinese Medicine. 2010;30(1):23-24. **Reason for exclusion:** Net effect of acupuncture cannot be isolated from the comparison.
21. Khosrawi S, Moghtaderi A, Haghighat S. Acupuncture in treatment of carpal tunnel syndrome: A randomized controlled trial study. Journal of research in medical sciences: the official journal of Isfahan University of Medical Sciences. 2012;17(1):1. **Reason for exclusion:** Net effect of acupuncture cannot be isolated from the comparison.
22. Bakhtiary AH, Rashidy-Pour A. Ultrasound and laser therapy in the treatment of carpal tunnel syndrome. Australian Journal of Physiotherapy. 2004;50(3):147-51. **Reason for exclusion:** Effect of acupuncture were not evaluated.
23. Barbosa RI, Fonseca MdCR, Rodrigues EKdS, Tamanini G, Marcolino AM, Mazzer N, et al. Efficacy of low-level laser therapy associated to orthoses for patients with carpal tunnel syndrome: A randomized single-blinded controlled trial. Journal of Back and Musculoskeletal Rehabilitation. 2016;29(3):459-66. **Reason for exclusion:** Effect of acupuncture were not evaluated.
24. Casale R, Damiani C, Maestri Ra, Wells C. Pain and electrophysiological parameters are improved by combined 830-1064 high-intensity LASER in symptomatic carpal tunnel syndrome versus Transcutaneous Electrical Nerve Stimulation. A

randomized controlled study. *European Journal of Physical and Rehabilitation Medicine*. 2013;49(2):205-11. **Reason for exclusion:** Effect of acupuncture were not evaluated.

25. Chang WD, Wu JH, Jiang JA, Yeh CY, Tsai CT. Carpal tunnel syndrome treated with a diode laser: a controlled treatment of the transverse carpal ligament. *Photomedicine and Laser Surgery*. 2008;26(6):551-7. **Reason for exclusion:** Effect of acupuncture were not evaluated.
26. Dakowicz A, Kuryliszyn-Moskal A, Kosztyla-Hojna B, Moskal D, Latosiewicz R. Comparison of the long-term effectiveness of physiotherapy programs with low-level laser therapy and pulsed magnetic field in patients with carpal tunnel syndrome. *Advances in Medical Sciences*. 2011;56(2):270-4. **Reason for exclusion:** Effect of acupuncture were not evaluated.
27. Dincer U, Cakar E, Kiralp MZ, Kilac H, Dursun H. The effectiveness of conservative treatments of carpal tunnel syndrome: splinting, ultrasound, and low-level laser therapies. *Photomedicine and Laser Surgery*. 2009;27(1):119-25. **Reason for exclusion:** Effect of acupuncture were not evaluated.
28. Evcik D, Kavuncu V, Cakir T, Subasi V, Yaman M. Laser therapy in the treatment of carpal tunnel syndrome: a randomized controlled trial. *Photomedicine and Laser Surgery*. 2007;25(1):34-9. **Reason for exclusion:** Effect of acupuncture were not evaluated.
29. Saeed FR, Hanif S, Aasim M. The Effects of Laser and Ultrasound Therapy on Carpal Tunnel Syndrome. *Pakistan Journal of Medical and Health Sciences*. 2012(6):238-41. **Reason for exclusion:** Effect of acupuncture were not evaluated.
30. Fusakul Y, Aranyavalai T, Saensri P, Thiengwittayaporn S. Low-level laser therapy with a wrist splint to treat carpal tunnel syndrome: a double-blinded randomized controlled trial. *Lasers in Medical Science*. 2014;29(3):1279-87. **Reason for exclusion:** Effect of acupuncture were not evaluated.
31. Irvine J, Chong SL, Amirjani N, Chan KM. Double-blind randomized controlled trial of low-level laser therapy in carpal tunnel syndrome. *Muscle & Nerve*. 2004;30(2):182-7. **Reason for exclusion:** Effect of acupuncture were not evaluated.
32. Jiang JA, Chang WD, Wu JH, Lai PT, Lin HY. Low-level laser treatment relieves pain and neurological symptoms in patients with carpal tunnel syndrome. *Journal of Physical Therapy Science*. 2011;23(4):661-5. **Reason for exclusion:** Effect of

acupuncture were not evaluated.

33. Lazovic M, Ilic-Stojanovic O, Kocic M, Zivkovic V, Hrkovic M, Radosavljevic N. Placebo-controlled investigation of low-level laser therapy to treat carpal tunnel syndrome. *Photomedicine and Laser Surgery*. 2014;32(6):336-44. **Reason for exclusion:** Effect of acupuncture were not evaluated.
34. Rayegani SM, Bahrami MH, Eliaspour D, Raeissadat SA, Samakoosh MST, Sedihgipour L, et al. The effects of low intensity laser on clinical and electrophysiological parameters of carpal tunnel syndrome. *Journal of Lasers in Medical Sciences*. 2013;4(4):182. **Reason for exclusion:** Effect of acupuncture were not evaluated.
35. Shooshtari S, Badiie V, Taghizadeh S, Nematollahi A, Amanollahi A, Grami M. The effects of low level laser in Clinical outcome and neurophysiological results of carpal tunnel syndrome. *Electromyography & Clinical Neurophysiology*. 2008;48(5):229. **Reason for exclusion:** Effect of acupuncture were not evaluated.
36. Soltani ZR, Asheghan M, Sadat AR, Ghayyomi A, Azma K. Low-level laser therapy versus local steroid injection in patients with idiopathic carpal tunnel syndrome: a single blind randomized comparative trial. *Internet Journal of Medical Update*. 2013;8(2):21-8. **Reason for exclusion:** Effect of acupuncture were not evaluated.
37. Tascioglu F, Degirmenci NA, Ozkan S, Mehmetoglu O. Low-level laser in the treatment of carpal tunnel syndrome: clinical, electrophysiological, and ultrasonographical evaluation. *Rheumatology International*. 2012;32(2):409-15. **Reason for exclusion:** Effect of acupuncture were not evaluated.
38. Toro JR, Poy PE, Pardo FM. Estudio prospectivo, aleatorizado y controlado con placebo, para valorar la eficacia del tratamiento con láser, asociado o no a ortesis de muñeca en el síndrome del túnel del carpo idiopático. *Rehabilitación*. 2012;46(2):92-102. **Reason for exclusion:** Effect of acupuncture were not evaluated.
39. Yagci I, Elmas O, Akcan E, Ustun I, Gunduz OH, Guven Z. Comparison of splinting and splinting plus low-level laser therapy in idiopathic carpal tunnel syndrome. *Clinical Rheumatology*. 2009;28(9):1059-65. **Reason for exclusion:** Effect of acupuncture were not evaluated.

40. Talebi GA, Saadat P, Javadian Y, et al. Manual therapy in the treatment of carpal tunnel syndrome in diabetic patients: A randomized clinical trial. *Caspian Journal of Internal Medicine* 2018;9(3):283-89. doi: <http://dx.doi.org/10.22088/cjim.9.3.283>. **Reason for exclusion:** No primary CTS patients enrolled.
41. Jiang Y, Wang Q, Li C, et al. Electroacupuncture combined with intermittent pneumatic compression therapeutic apparatus for diabetic peripheral neuropathy and the effect on HIF-1alpha and VEGF levels. *World Journal of Acupuncture - Moxibustion* 2018;28(2):75-80. doi: <http://dx.doi.org/10.1016/j.wjam.2018.05.006>. **Reason for exclusion:** No primary CTS patients enrolled.
42. Jeong YJ, Kwak MA, Seo JC, et al. Acupuncture for the treatment of taxane-induced peripheral neuropathy in breast cancer patients: A pilot trial. *Evidence-based Complementary and Alternative Medicine* 2018;2018:5367014. doi: <http://dx.doi.org/10.1155/2018/5367014>. **Reason for exclusion:** No primary CTS patients enrolled.
43. Choi G-H, Wieland LS, Lee H, et al. Acupuncture and related interventions for the treatment of symptoms associated with carpal tunnel syndrome. *The Cochrane database of systematic reviews* 2018;12:CD011215. doi: <https://dx.doi.org/10.1002/14651858.CD011215.pub2>. **Reason for exclusion:** Not a RCT.
44. Ural FG, Ozturk GT. The Acupuncture Effect on Median Nerve Morphology in Patients with Carpal Tunnel Syndrome: An Ultrasonographic Study. *Evidence-based Complementary and Alternative Medicine* 2017;2017:7420648. doi: <http://dx.doi.org/10.1155/2017/7420648>. **Reason for exclusion:** Not a RCT.
45. Chen L, Xue L, Li S, et al. [Clinical research on mild and moderate carpal tunnel syndrome treated with contralateral needling technique at distal acupoints and acupuncture at local acupoints]. *Zhongguo zhen jiu = Chinese acupuncture & moxibustion* 2017;37(5):479-82. doi: <https://dx.doi.org/10.13703/j.0255-2930.2017.05.007>. **Reason for exclusion:** Net effect of acupuncture cannot be isolated from the comparison.

Appendix 3. Detailed diagnostic criteria and adverse events of included randomized controlled trials

First author, year	Diagnostic criteria	Adverse events	
		Acupuncture / acupuncture related treatment group	Control group
Maeda 2017	(1) History of pain or paraesthesia in median nerve innervated territories > 3 months; (2) Phalen's manoeuvre test; (3) Durkan's sign test; (4) Median sensory nerve conduction latency >3.7ms or >0.5ms compared to ulnar sensory nerve latency with normal motor conduction; (5) ≤4.2ms median nerve motor latency; (6) ≤50% loss of motor amplitudes	Not reported.	Not reported.
Chung 2016	(1) Katz hand diagram classic or probable criteria for carpal tunnel syndrome; (2) Positive in at least 2 of 3 clinical tests (Phalen maneuver test, Tinel sign test, and the wrist flexion and median nerve compression test)	4 (4%) reported bruising at acupoints, 3 (3%) mild local dermatitis around acupoints, 2 (2%) complained of increased pain, 2 (2%) reported numbness and tingling, all adverse event resolved within 1 week. No serious adverse events occurred.	10 (11%) patients reported mild local dermatitis, 2 (2%) developed eczema on the splinted hands and one (1%) stopped using the splint. No serious adverse events occurred.
Cai 2016	Clinical examination according to Chinese clinical guidelines, including: (1) Symptom assessment; (2) Tinel's sign test; (3) Wrist flexion and median nerve compression test	No adverse events occurred.	Not reported.
Hadianfard 2015	(1) Symptom history; (2) Physical examination (not specified); (3) Electrodiagnostic test (not specified)	No adverse events occurred.	5 (20%) patients received ibuprofen had gastrointestinal side effects, omeprazole was used to replace ibuprofen then. Not reported that whether the side effects disappeared after the use of omeprazole. No serious adverse events were reported.
Koca 2014	(1) Symptoms > 6 weeks; (2) Phalen's maneuver test; (3) Tinel's sign test; (4) Wrist flexion and median nerve compression test; (5) Nerve conduction study (NCS)	2 (8%) patients received TENS experienced mild tenderness at the application site. Not reported that whether there was any treatment for tenderness, when and whether it disappeared. No serious adverse events occurred.	No serious complication in any group. Minor or moderate adverse effects not reported
Ding 2013	(1) Phalen's maneuver test; (2) Tinel's sign test; (3) Wrist flexion and median nerve compression test; (4) NCS	Not reported.	Not reported.
Yao 2012	(1) Symptoms ≥ 3 months;	Reported as no serious adverse event.	Reported as no serious adverse event.

First author, year	Diagnostic criteria	Adverse events	
		Acupuncture / acupuncture related treatment group	Control group
	(2) NCS		
Yang 2011	(1) Symptoms; (2) Phalen's maneuver test; (3) Tinel's sign test; (4) NCS	No serious and long-term adverse effects. 2 (5%) patients in acupuncture group experienced adverse effects, and were related to the local insertion of the needles (e.g. local pain after session, ecchymosis, and local paresthesia).	No serious and long-term adverse effects. 7 (18%) patients received prednisolone reported side effects, most frequently noted adverse effects were nausea and epigastralgia. 4 (10%) patients dropped out due to severe epigastralgia with nausea.
Kumnerddee 2010	NCS based on the American Academy of Neurology clinical diagnostic criteria	6 (20%) subjects in the EA group experienced temporary skin bruises at the wrist or elbow due to the small vessel damage. No serious adverse events occurred.	Reported as no adverse events occurred.
Zhang 2009	(1) Symptoms persisted after 1-week basic treatment; (2) Electromyography; (3) NCS	Not reported.	Not reported.

Appendix 4. Definitions of acupuncture and related therapies

Manual acupuncture	Insert a needle into the acupoint, then, several manual manipulations (e.g lifting and thrusting, twirling and rotating, or the combination of both) are performed. It is believed that needling has a function of promoting Qi (the vital energy) in the meridians to yield its curative effect.
Moxibustion	Moxibustion is a method used to alleviate symptoms by applying heat to the acupoints. During the process of moxibustion, a moxa herb is burned on top of the skin or on the acupoints. A cone, stick, or loose herb can be used for moxibustion. It can also be applied at the end of the acupuncture needles.
Electroacupuncture	It is a modern acupuncture therapy procedure that is used with manual acupuncture. During the process, a needle is first inserted to the selected acupoint, then, it is attached to a trace pulse current for producing a combined effect of needling and electric stimulation.
Transcutaneous electrical nerve stimulation (TENS)	TENS is the application of low-voltage electrical current through electrodes placed on the skin to stimulate the nerves for therapeutic purposes. It can be implemented with changing frequencies, from low (< 10 Hz) to high (> 50 Hz).

Appendix 5. Details on acupuncture and related therapies evaluated among included trials

First author, year	Treatment Type	Treatment location /acupuncture point	Insertion depth; Retention time; instrument, length & diameter	Response sought	Treatment frequency & duration	Practitioner background
Maeda 2017 ²⁶	Local EA	WaiGuan (TE5), DaLing (PC7), ShaoHai (HT3), QuZe (PC3), WanGu (SI4), YangXi (LI5), ShouSanLi (LI10), ChiZe (LU5).	10-30mm; 20 minutes; Filiform needle, 20-40mm & 0.20-0.25mm	De-qi response [†]	16 sessions for over 8 weeks	Trained, licensed acupuncturist with ≥ 3 years of clinical experience
	Distal EA	Spleen (SP6), ZhongFeng (LV4), YangLingQuan (GB34), TaiXi (KD3), ShangQiu (SP5)				
Chung 2016 ¹⁸	EA	WaiGuan (TE5), DaLing (PC7), ShaoHai (HT3), QuZe (PC3), WanGu (SI4), YangXi (LI5), ShouSanLi (LI10), ChiZe (LU5).	10-30mm; 20 minutes; Filiform needle, 40mm & 0.25mm	De-qi response [†]	13 sessions for over 17 weeks	Registered CM practitioner with ≥ 10 years of clinical experience and ≥ 5 years full time training in CM
Cai 2016 ³⁵	Manual	HeGu (LI4), ShouSanLi (LI10),	8-12mm; 20 minutes; Filiform	De-qi	10 sessions	NR
	acupuncture	NeiGuan (PC6), DaLing (PC7)	needle; 40mm & 0.30mm	response [†]	once per 2	

			Grain-sized moxa, NR & NR		days	
	Moxibustion	DaLing (PC7)	Grain-sized moxa, NR & NR	Burning sensation		
Hadianfard 2015 ¹⁷	Manual acupuncture	DaLing (PC7), XiMen (PC4), NeiGuan (PC6), LaoGong (PC8), QingLing (HT2), ShenMen (HT7), ShaoFu (HT8), TaiYuan (LU9), QuChi (LI11)	Varies depending on acupoint; 20 minutes; Filiform needle, 40mm & 0.25mm	De-qi response [†]	2 sessions per week for 4 weeks	Licensed practitioner
Koca 2014 ³⁷	TENS	Carpal ligament and palmar area	N/A; 20 minutes; Conventional TENS electrodes (35 × 45mm, frequency: 100Hz, stimulation period: 80ms)	N/A	5 sessions per week for 15 sessions	NR
Ding 2013 ³⁶	EA	SanJiao (SJ4)	30.5-38.1mm; 20 minutes; filiform needle, 40mm & 0.30mm	Feeling of electric shock	5 sessions per week for 2 weeks	NR
Yao 2012 ²⁵	Manual acupuncture	NeiGuan (PC6), DaLing (PC7), SanYinJiao (SP6), WaiGuan (TE5), HeGu (LI4), QuChi (LI11), YangLingQuan (GB34)	NR; 20 minutes; No.5 filiform needle, 40mm & 0.30mm	De-qi response [†]	1 session per week for 6 weeks	Trained in medical acupuncture and traditional CM, 3 years of experience

Yang 2011 ¹⁶	Manual acupuncture	NeiGuan (PC6), DaLing (PC7)	NR; 30 minutes; NR	NR	2 sessions per week for 4 weeks	NR
Kumnerddee 2010 ¹⁵	EA	HeGu (LI4), QuChi (LI11), DaLing (PC7), LaoGong (PC8), BaXie (EX-UE9)	EX-UE9: 10mm, PC7, PC8: 1- 2mm [¶] ; 30 minutes; Filiform needle, 50mm & 0.25mm	De-qi response [†]	10 sessions twice per week	Trained physiatrist with 4 years of clinical experience
Zhang 2009 ³⁴	Manual Acupuncture	LaoGong (PC8), YuJi (LU10), DaLing (PC7), NeiGuan (PC6), QuZe (PC3), HeGu (LI4), WaiGuan (TE5), YangGu (SI5), SanJiao (SJ4), YangXi (LI5), QuChi (LI11)	NR; 20 minutes; Filiform needle, 40mm & 0.30mm	De-qi response [†]	20 daily- sessions	NR

Key: † A feeling of electric shock was used for response sought for PC7; ¶ For LI4, LI11, inserted to the depths until de-qi response. Abbreviations: EA:

Electroacupuncture; CM: Chinese medicine; N/A: not applicable; NR: not reported; TENS: transcutaneous electrical nerve stimulation.