Table des matières

Chronic Neck Pain

Cervicalgies : évaluation de l'acupuncture

1. Systematic Reviews and Meta-Analysis

1.1. Generic Acupuncture

1.1.1. Xie 2025

Xie CR, Zhang ZY, Tao QF, Luo XD, Fu QX, Gao L, Wang T, Ouyang X, Yan QY, Sun MS, Wang X, Liang FR, Zheng H, Zhao L. Effectiveness of Acupuncture for Neck Pain: Systematic Review and Meta-analysis with Trial Sequential Analysis. J Pain Res. 2025 Nov 25;18:6297-6316. https://doi.org/10.2147/JPR.S558059

Background	Acupuncture is widely utilized intervention for neck pain. Previous research has indicated that acupuncture effectively reduces pain intensity of neck pain. However, its validity remains inconclusive due to repeated significance testing. We aimed to examine the efficacy and safety of acupuncture for neck pain through meta-analysis and trial sequential analysis (TSA).
Methods	We searched the OVID Medline, Embase, and Cochrane Library from inception to October 30, 2024. Randomized controlled trials (RCTs) comparing acupuncture with inert treatment, manual therapy, or other active treatments for neck pain in adults were included.
Results	**Twenty-six trials involving 3520 participants** were included. Thirteen (50%) trials were at a low risk of bias. Acupuncture treatment demonstrated significantly greater reductions in pain intensity (mean difference [MD] −1.26, 95% confidence interval [CI] −1.77 to −0.75, P < 0.001) and pain perception (MD −3.46, 95% CI −5.71 to −1.21, P = 0.003) compared with inert treatment. The TSA revealed that the cumulative Z-curves for both analyses intersected the TSA cut-off in favor of acupuncture, with the total sample size exceeding the required information size (RIS). Additionally, acupuncture was superior to inert treatment in reducing functional disability after treatment (MD −6.52, 95% CI −9.8 to −3.2, P < 0.001), with cumulative sample size reaching RIS. Acupuncture also showed significant improvements in quality of life. The cumulative z-curve intersects with the TSA cut-off, which is beneficial to acupuncture.
Conclusion	In conclusion, despite the very low to moderate quality of evidence and high heterogeneity that weaken the pooled estimates, our analysis suggests acupuncture might be a safe and effectiveness therapy for neck pain, a finding corroborated by TSA. These results position acupuncture as a potential treatment option, particularly for patients with an inadequate response to conventional therapies. Future high-quality trials are unequivocally needed to strengthen this evidence.

1.1.2. Yang 2025

Yang L, Zhang Q, Wen M, Li S, Lu A, Li K, Peng C, Chen J. Clinical evidence for acupuncture-assisted treatment of depression: A systematic review and meta-analysis with meta-regression. Gen Hosp

Psychiatry. 2025 Nov-Dec;97:64-71. https://doi.org/10.1016/j.genhosppsych.2025.09.002

Background	Research exploring the clinical application of acupuncture-assisted drug treatment for depression is expanding, yet the findings remain inconsistent, and the moderating factors between the two approaches remain unclear.To assess the efficacy and safety of acupuncture-assisted treatment combined with selective serotonin reuptake inhibitors (SSRIs) or serotonin-norepinephrine reuptake inhibitors (SNRIs) for depression compared with antidepressant medication alone and to identify the moderating effects of acupuncture-assisted treatment on depression and the presence of publication bias.
Methods	We conducted a comprehensive search of seven English-language databases and four Chinese-language biomedical databases from inception to December 2024 (INPLASY202420002), without language restrictions.Randomized controlled trials (RCTs) involving participants aged ≥18 years diagnosed with depression and investigating the effects of acupuncture-assisted medication (SSRIs/SNRIs) versus SSRIs/SNRIs alone were included. Random-effects models were used to calculate effect sizes for the included RCTs, and meta-regression was used to analyse potential moderators of acupuncture-assisted interventions. Primary outcomes included depression severity before and after acupuncture-assisted intervention, change measured by self-rating or clinical scales and adverse effects. Secondary outcomes were treatment response rate and remission rate post-intervention.
Results	Our meta-analysis incorporated **66 studies with 5744 participants**. Acupuncture-assisted interventions with SSRIs or SNRIs significantly reduced the Hamilton Depression (HAMD) scores (standardised mean difference [SMD] = -1.185, 95% confidence interval [CI] [-1.43, -0.94]), as well as the Side Effects Rating Scale [SERS] and Treatment-Emergent Symptoms Scale (TESS) scores (SERS: SMD = -0.896, 95% CI [-1.39, -0.94]; TESS: SMD = -1.469, 95% CI [-2.18, -0.76]), while effectively increasing the treatment response (RR = 1.391, 95% CI [1.28, 1.51]) and remission (RR = 1.597, 95% CI [1.45, 1.76]) rates compared with controls. Regression analyses indicated that baseline HAMD score (b = 0.405, β = 0.405, 95% CI [0.15, 0.66], p = 0.002, R2 = 0.164), treatment duration (b = 0.056, β = 0.324, 95% CI [0.01, 0.10], p = 0.016, R2 = 0.105) and disease duration (b = 0.045, β = 0.245, 95% CI [-0.01, 0.10], p = 0.009, R2 = 0.060) appear to be effective moderators of acupuncture-assisted treatment.
Conclusion	This systematic review and meta-analysis demonstrate the efficacy of acupuncture interventions for depression, suggesting it as a viable evidence-based treatment option. However, the high heterogeneity of the studies, the presence of publication bias, and the lack of sham acupuncture controls in many studies limit the strength of these conclusions. Future research should focus on multi-centre, multi-regional and rigorous trials with sham acupuncture controls to elucidate the relationship between acupuncture-assisted interventions and depression, informing clinical guidelines and health insurance systems to alleviate current pressures on clinical care. In the meantime, clinicians should consider these limitations when deciding whether to recommend acupuncture as an adjunctive treatment for depression.

1.1.3. Fang 2024

Fang J, Shi H, Wang W, Chen H, Yang M, Gao S, Yao H, Zhu L, Yan Y, Liu Z. Durable Effect of Acupuncture for Chronic Neck Pain: A Systematic Review and Meta-Analysis. Curr Pain Headache Rep. 2024 Sep;28(9):957-969. https://doi.org/10.1007/s11916-024-01267-x

Objective	Chronic neck pain, a prevalent health concern characterized by frequent recurrence, requires exploration of treatment modalities that provide sustained relief. This systematic review and meta-analysis aimed to evaluate the durable effects of acupuncture on chronic neck pain.

Methods	We conducted a literature search up to March 2024 in six databases, including PubMed, Embase, and the Cochrane Library, encompassing both English and Chinese language publications. The main focus of evaluation included pain severity, functional disability, and quality of life, assessed at least 3 months post-acupuncture treatment. The risk of bias assessment was conducted using the Cochrane Risk of Bias 2.0 tool, and meta-analyses were performed where applicable.
Results	**Eighteen randomized controlled trials** were included in the analysis. Acupuncture as an adjunct therapy could provide sustained pain relief at three (SMD: - 0.79; 95% CI - 1.13 to - 0.46; p < 0.01) and six (MD: - 18.13; 95% CI - 30.18 to - 6.07; p < 0.01) months post-treatment. Compared to sham acupuncture, acupuncture did not show a statistically significant difference in pain alleviation (MD: - 0.12; 95% CI - 0.06 to 0.36; p = 0.63). However, it significantly improved functional outcomes as evidenced by Northwick Park Neck Pain Questionnaire scores 3 months post-treatment (MD: - 6.06; 95% CI - 8.20 to - 3.92; p < 0.01). Although nine studies reported an 8.5%-13.8% probability of adverse events, these were mild and transitory adverse events.
Conclusion	Acupuncture as an adjunct therapy may provide post-treatment pain relief lasting at least 3 months for patients with chronic neck pain, although it is not superior to sham acupuncture, shows sustained efficacy in improving functional impairment for over 3 months, with a good safety profile.

1.1.4. Yu 2024

Yu B, Yang Y, Fang J, Guo Y, Qiu Y, Yang S, Ran S, Zheng K, Wang T, Huang Y. Efficacy and safety of acupuncture treatment for stiff neck: A systematic review and meta-analysis. Medicine (Baltimore). 2024 Nov 8;103(45):e40415. https://doi.org/10.1097/MD.0000000000040415

Backgound	Stiff neck is a common acute musculoskeletal condition that significantly affects the quality of life of patients. Acupuncture is recommended as an effective method for alleviating pain and restoring neck mobility in patients with stiff neck, but there is currently a lack of scientific evidence supporting its efficacy and safety. The purpose of this study was to investigate the efficacy and safety of acupuncture in the treatment of stiff neck.
Method	This study searched 8 Chinese and English electronic medical databases, including China Biology Medicine disc, VIP database, Wanfang Data, China National Knowledge Infrastructure, Web of Science, PubMed, Embase, and the Cochrane Library, with a search period up to May 13, 2024. The focus was on clinical randomized controlled trials evaluating acupuncture treatment for stiff neck. The primary outcome measures were the total effective rate and visual analog scale scores. The quality of evidence and methodology of the included studies were assessed according to the GRADEpro guidelines. Meta-analysis was conducted to assess the results, with heterogeneity analysis, sensitivity analysis, subgroup analysis, trial sequential analysis, and publication bias analysis performed to verify the robustness of the combined results and explore potential sources of heterogeneity.
Result	This study evaluated **10 clinical randomized controlled trials** comparing acupuncture therapy with conventional treatment, involving **754 patients**. The treatment group received acupuncture alone or in combination with conventional treatment, whereas the control group received only conventional treatment. The analysis results showed that the treatment group was significantly superior to the control group in improving the total effective rate (risk ratio = 1.12, 95% confidence interval [CI] [1.04, 1.21], P = .002), reducing visual analog scale scores (mean difference [MD] = -0.93, 95% CI [-1.29, -0.57], P < .001), reducing neck disability index scores (MD = -6.39, 95% CI [-6.79, -6.00], P < .001), and restoring cervical range of motion (cervical lateral flexion: MD = 4.29, 95% CI [3.15, 5.43], P < .001; cervical rotation: MD = 6.08, 95% CI [4.46, 7.70], P < .001).

Conclusion	Acupuncture is an effective and safe method for treating stiff neck. However, to validate this conclusion, more rigorously designed and higher-quality studies are needed in the future.

1.1.5. Castellani 2022 (network meta-analysis)

Castellini G, Pillastrini P, Vanti C, Bargeri S, Giagio S, Bordignon E, Fasciani F, Marzioni F, Innocenti T, Chiarotto A, Gianola S, Bertozzi L. Some conservative interventions are more effective than others for people with chronic non-specific neck pain: a systematic review and network meta-analysis. J Physiother. 2022 Oct;68(4):244-254. https://doi.org/10.1016/j.jphys.2022.09.007

Question	Which is the most effective conservative intervention for patients with non-specific chronic neck pain (CNSNP)?
Design	A systematic review and network meta-analysis of randomised clinical trials.
Participants	Adults with CNSNP of at least 3 months duration.
Interventions	All available pharmacological and non-pharmacological interventions.
Outcome measure	The primary outcomes were pain intensity and disability. The secondary outcome was adverse events.
Results	Overall, 119 RCTs (12,496 patients; 32 interventions) were included. Risk of bias was low in 50.4% of trials, unclear in 22.7% and high in 26.9%. Compared with inert treatment, a combination of active and/or passive multimodal non-pharmacological inventions (eg, exercise and manual therapy) were effective for pain on a 0-to-10 scale at 1 month (MD range 0.84 to 3.74) and at 3 to 6 months (MD range 1.06 to 1.49), and effective on disability on a 0-to-100 scale at 1 month (MD range 10.26 to 14.09) and 3 to 6 months (MD range 5.60 to 16.46). These effects ranged from possible to definite clinical relevance. Compared with inert treatment, anti-inflammatory drugs alone or in combination with another non-pharmacological treatment did not reduce pain at 1 month or 3 to 6 months. At 12 months, no superiority was found over inert treatment on both outcomes. Most mild adverse events were experienced following **acupuncture/dry needling intervention**. On average, the evidence varied from low to very low certainty.
Conclusions	While multimodal non-pharmacological interventions may reduce pain and disability for up to 3 to 6 months of follow-up when compared with inert treatment, the evidence was very uncertain about their effects. Better quality and larger trials are needed to improve the certainty of evidence.

1.1.6. Seo 2017 Ø

Seo SY, Lee KB, Shin JS, Lee J, Kim MR, Ha IH, Ko Y, Lee YJ. Effectiveness of Acupuncture and Electroacupuncture for Chronic Neck Pain: A Systematic Review and Meta-Analysis. Am J Chin Med. 2017;45(8):1573-1595. [100144].

Objective	The aim of this systematic review was to assess evidence from randomized controlled trials (RCTs) on the effectiveness and safety of acupuncture and electroacupuncture in patients with chronic neck pain.

Method	We searched nine databases including Chinese, Japanese and Korean databases through 30 July 2016. The participants were adults with chronic neck pain and were treated with acupuncture or electroacupuncture. Eligible trials were those with intervention groups receiving acupuncture and electroacupuncture with or without active control, and control groups receiving other conventional treatments such as physical therapy or medication. Outcomes included pain intensity, disability, quality of life (QoL) and adverse effects. For statistical pooling, the standardized mean difference (SMD) and its 95% confidence interval (CI) were calculated using a fixed-effects model.
Results	**Sixteen RCTs were selected**. The comparison of the sole acupuncture group and the active control group did not come out with a significant difference in pain (SMD 0.24, 95% CI [Formula: see text]0.27-0.75), disability (SMD 0.51, 95% CI [Formula: see text]0.01-1.02), or QoL (SMD [Formula: see text]0.37, 95% CI [Formula: see text]1.09-0.35), showing a similar effectiveness of acupuncture with active control. When acupuncture was added into the control group, the acupuncture add-on group showed significantly higher relief of pain in studies with unclear allocation concealment (SMD [Formula: see text]1.78, 95% CI [Formula: see text]2.08-[Formula: see text]1.48), but did not show significant relief of pain in studies with good allocation concealment (SMD [Formula: see text]0.07, 95% CI [Formula: see text]0.26-0.12). Significant relief of pain was observed when the sole electroacupuncture group was compared to the control group or electroacupuncture was added onto the active control group, but a lot of the results were evaluated to have low level of evidence, making it difficult to draw clear conclusions. In the result reporting adverse effects, no serious outcome of adverse event was confirmed. Acupuncture and conventional medicine for chronic neck pain have similar effectiveness on pain and disability when compared solely between the two of them. When acupuncture was added onto conventional treatment it relieved pain better, and electroacupuncture relieved pain even more.
Conclusions	It is difficult to draw conclusion because the included studies have a high risk of bias and imprecision. Therefore better designed large-scale studies are needed in the future.

1.1.7. Deng 2017 ★★

Deng YZ, Xu LG, Chen L, Zhou D, Liu Y. Effectiveness of acupuncture in the management of cervical spondylosis: a meta-analysis. J Biol Regul Homeost Agents. 2017;31(4):1017-1022. [44486].

objectifs	Cervical spondylosis is the most common type of spinal pathology which is more common in middle-aged or senile populations with a high potential to affect physical and mental health. This study evaluates the effectiveness of acupuncture in the management of cervical spondylosis.
Methods	After a detailed literature search in electronic databases, the required data were acquired from selected research articles and meta-analyses were performed to obtain the percent cure, failure and total effectiveness rates under random effects model. Meta-regression was performed to identify the factors affecting the efficacy.
Results	**Twenty-seven studies** were selected for data acquisition (**2,853 patients**; average age 46.2±9.5; 51.7±12.5% males). Acupuncture alone had 33.41% (25.50, 41.24) cure rate but in combination with other therapies it rose to 53.36% (41.9, 64.8). Similarly, total effectiveness rate was 87.01% (83.40, 90.62) with acupuncture alone and 93.62% (89.85, 97.38) with acupuncture in combination with other therapies. Age was inversely associated with the percent cure rate and the number of combination therapies with acupuncture was positively associated with the cure rate.
conclusion	Acupuncture therapy alone can provide cure and total effectiveness rates of 33% and 87%, respectively, but acupuncture with additional therapies can improve the cure and total effectiveness rates to 53% and 94%, respectively. Age inversely affects efficacy and the number of additional therapies improves the efficacy.

1.1.8. Trinh 2016

Withdrawn / article retiré

Trinh K, Graham N, Irnich D, Cameron ID, Forget M. Acupuncture for neck disorders. Cochrane Database Syst Rev. 2016;(5):CD004870. [186493].

Background	Neck pain is one of the three most frequently reported complaints of the musculoskeletal system. Treatments for neck pain are varied, as are perceptions of benefit. Acupuncture has been used as an alternative to more conventional treatment for musculoskeletal pain. This review summarises the most current scientific evidence on the effectiveness of acupuncture for acute, subacute and chronic neck pain. This update replaces our 2006 Cochrane review update on this topic.
Objectives	To determine the effects of acupuncture for adults with neck pain, with focus on pain relief, disability or functional measures, patient satisfaction and global perceived effect. Search Methods: We searched the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, EMBASE, the Manual, Alternative and Natural Therapy Index System (MANTIS), the Cumulative Index to Nursing and Allied Health Literature (CINAHL) and the Index to Chiropractic Literature (ICL) from their beginning to August 2015. We searched reference lists, two trial registers and the acupuncture database Traditional Chinese Medical Literature Analysis and Retrieval System (TCMLARS) in China to 2005. Selection Criteria: We included published trials that used random assignment to intervention groups, in full text or abstract form. We excluded quasi-randomised controlled trials (RCTs). Data Collection And Analysis: Two review authors made independent decisions for each step of the review: article inclusion, data abstraction and assessment of quality of trial methods. We assessed study quality by using the Cochrane Back Review Group 'Risk of bias' tool. We used consensus to resolve disagreements, and when clinical heterogeneity was absent, we combined studies by using random-effects meta-analysis models.
Main Results	Of the **27 included studies**, three represented individuals with whiplash-associated disorders (WADs) ranging from acute to chronic (205 participants), five explored chronic myofascial neck pain (186 participants), five chronic pain due to arthritic changes (542 participants), six chronic non-specific neck pain (4011 participants), two neck pain with radicular signs (43 participants) and six subacute or chronic mechanical neck pain (5111 participants).For mechanical neck pain, we found that acupuncture is beneficial at immediate-term follow-up compared with sham acupuncture for pain intensity; at short-term follow-up compared with sham or inactive treatment for pain intensity; at short-term follow-up compared with sham treatment for disability; and at short-term follow-up compared with wait-list control for pain intensity and neck disability improvement. Statistical pooling was appropriate for acupuncture compared with sham for short-term outcomes due to statistical homogeneity (P value = 0.83; I2 = 20%). Results of the meta-analysis favoured acupuncture (standardised mean difference (SMD) -0.23, 95% confidence interval (CI) -0.20 to -0.07; P value = 0.0006). This effect does not seem sustainable over the long term. Whether subsequent repeated sessions would be successful was not examined by investigators in our primary studies.Acupuncture appears to be a safe treatment modality, as adverse effects are minor. Reported adverse effects include increased pain, bruising, fainting, worsening of symptoms, local swelling and dizziness. These studies reported no life-threatening adverse effects and found that acupuncture treatments were cost-effective. Since the time of our previous review, the quality of RCTs has improved, and we have assessed many of them as having low risk of bias. However, few large trials have provided high-quality evidence.

Authors' Conclusions	**Moderate-quality evidence suggests that acupuncture relieves pain better than sham acupuncture, as measured at completion of treatment and at short-term follow-up, and that those who received acupuncture report less pain and disability at short-term follow-up than those on a wait-list. Moderate-quality evidence also indicates that acupuncture is more effective than inactive treatment for relieving pain at short-term follow-up**.

1.1.9. Yuan 2015 ★★

Yuan QL, Guo TM, Liu L, Sun F, Zhang YG. Traditional Chinese Medicine for Neck Pain and Low Back Pain: A Systematic Review and Meta-Analysis. 2015;PLoS One. 2015 Feb 24;10(2):e0117146. doi: 10.1371/journal.pone.0117146. eCollection 2015.[141558]

Purpose	Neck pain (NP) and low back pain (LBP) are common symptoms bothering people in daily life. Traditional Chinese medicine (TCM) has been used to treat various symptoms and diseases in China and has been demonstrated to be effective. The objective of the present study was to review and analyze the existing data about pain and disability in TCM treatments for NP and LBP.
Methods	Studies were identified by a comprehensive search of databases, such as MEDLINE, EMBASE, and Cochrane Library, up to September 1, 2013. A meta-analysis was performed to evaluate the efficacy and safety of TCM in managing NP and LBP.
Results	**Seventy five randomized controlled trials (n = 11077)** were included. Almost all of the studies investigated individuals experiencing chronic NP (CNP) or chronic LBP (CLBP). We found moderate evidence that acupuncture was more effective than sham-acupuncture in reducing pain immediately post-treatment for CNP (visual analogue scale (VAS) 10 cm, mean difference (MD) = -0.58 (-0.94, -0.22), 95%confidence interval, p = 0.01), CLBP (standardized mean difference = -0.47 (-0.77, -0.17), p = 0.003), and acute LBP (VAS 10 cm, MD = -0.99(-1.24, -0.73), p< 0.001). Cupping could bemore effective than waitlist in VAS (100mm)(MD = -19.10 (-27.61, -10.58), p < 0. 001) for CNP or medications (e.g. NSAID) for CLBP (MD = -5.4 (-8.9, -0.19), p = 0.003). No serious or life-threatening adverse effects were found.
Conclusion	**Acupuncture, acupressure, and cupping could be efficacious in treating the pain and disability associated with CNP or CLBP in the immediate term**. Gua sha, tai chi, qigong, and Chinese manipulation showed fair effects, but we were unable to draw any definite conclusions, and further research is still needed. The efficacy of tuina and moxibustion is unknown because no direct evidence was obtained. These TCM modalities are relatively safe.

1.1.10. Graham 2013 ★★★

Graham N, Gross AR, Carlesso LC, Santaguida PL, Macdermid JC, Walton D, Ho E; ICON. An ICON Overview on Physical Modalities for Neck Pain and Associated Disorders. Orthop J. 2013;7:440-60.[170317]

Purpose	To systematically review existing literature to establish the evidence-base for recommendations on physical modalities for acute to chronic neck pain.

Methods	A comprehensive computerized and manual search strategy from January 2000 to July 2012, systematic review methodological quality assessment using AMSTAR, qualitative assessment using a GRADE approach and recommendation presentation was included. Systematic or meta-analyses of studies evaluating physical modalities were eligible. Independent assessment by at least two review team members was conducted. Data extraction was performed by one reviewer and checked by a second. Disagreements were resolved by consensus.
Results	Of 103 reviews eligible, 20 were included and 83 were excluded. **9 RCTs and 528 patients**. **Short term pain relief - Moderate evidence of benefit: acupuncture, intermittent traction and laser were shown to be better than placebo for chronic neck pain**.
Conclusion	**The current state of the evidence favours acupuncture, laser and intermittent traction for chronic neck pain**.

1.1.11. Furlan 2012 Ø

Furlan AD, Yazdi F, Tsertsvadze A, Gross A, Van Tulder M, Santaguida L, Gagnier J, Ammendolia C, Dryden T, Doucette S, Skidmore B, Daniel R, Ostermann T, Tsouros S. A systematic review and meta-analysis of efficacy, cost-effectiveness, and safety of selected complementary and alternative medicine for neck and low-back pain. Evid Based Complement Alternat Med. 2012. [168178].

Background	Back pain is a common problem and a major cause of disability and health care utilization. Purpose. To evaluate the efficacy, harms, and costs of the most common CAM treatments (acupuncture, massage, spinal manipulation, and mobilization) for neck/low-back pain.
Methods	Data Sources: records without language restriction from various databases up to February 2010. Data Extraction: the efficacy outcomes of interest were pain intensity and disability. Data Synthesis: reports of 147 randomized trials and 5 nonrandomized studies were included. CAM treatments were more effective in reducing pain and disability compared to no treatment, physical therapy (exercise and/or electrotherapy) or usual care immediately or at short-term follow-up. **Trials that applied sham-acupuncture tended towards statistically nonsignificant results.** In several studies, acupuncture caused bleeding on the site of application, and manipulation and massage caused pain episodes of mild and transient nature.
Conclusions	CAM treatments were significantly more efficacious than no treatment, placebo, physical therapy, or usual care in reducing pain immediately or at short-term after treatment. CAM therapies did not significantly reduce disability compared to sham. None of the CAM treatments was shown systematically as superior to one another. More efforts are needed to improve the conduct and reporting of studies of CAM treatments.

1.1.12. Zhu 2011 ★

Zhu XP, Fu WB, Zhang GC, et al. [Long-term treatment effect of acupuncture on cervical spondylosis]. Chinese Journal of Gerontology. 2011;6:. [186944].

Objective	To evaluate the effect of long-term treatment of acupuncture on cervical spondylosis.
Methods	The randomized control trials (RCT) literatures of long-term treatment effect of acupuncture on cervical spondylosis were collected which were met the inclusion criteria, ranked quality of every literature basing on the modified Jadad score sheet, then applied systematic reviews, also conduced layer analysis depending on different long-term efficacy indexes.

Results	**1 723 patients and 11 literatures** met the inclusion criteria were included. Compared with that of control group, OR of long-term efficacy rate of acupuncture treatment group was 3. 42, 95% CI (2. 64, 4. 43), the efficiency of treatment group was better than that of control group (P<0. 000 01);OR of recurrence rate was 0. 45, 95% CI (0. 23, 0. 91), P = 0. 03. Long-term efficacy of treatment group was better than that of control group, of which the simple acupuncture interventions in treatment group had no significant difference from that of control group (P= 0. 02, I2 = 67%, using random effects model testing, the combined OR=0. 52, 95% CI (0. 19, 1. 44).
Conclusions	**The long-term treatment effect of acupuncture on cervical spondylosis is better than that of control group**, but need high-quality, large sample, and more formal index of efficacy study to prove in the future.

1.1.13. Leaver 2010 ★★

Leaver AM, Refshauge KM, Maher CG, McAuley JH. Conservative interventions provide short-term relief for non-specific neck pain: a systematic review. J Physiother. 2010;56(2):73-85.[155517)

Purpose	Which interventions for non-specific neck pain are effective in reducing pain or disability?
Methods	Systematic review with meta-analysis of randomised controlled trials. PARTICIPANTS: Adults with non-specific neck pain. INTERVENTION: all interventions for neck pain that were evaluated in trials with a placebo, minimal- or no-intervention control. OUTCOME MEASURES: pain and disability outcomes (0-100 scale) at the conclusion of a course of treatment (short term), and in the medium (3 to 9 months) and long (> 9 months) term.
Results	**33 trials** were identified. The interventions with significant short-term effects on pain were manipulation (MD -22, 95% CI -32 to -11), multimodal intervention (MD -21, 95% CI -34 to -7), specific exercise (MD -12, 95% CI -22 to -2), combination orphenadrine/paracetamol (MD -17, 95% CI -32 to -2), and manual therapy (MD -12, 95% CI -16 to -7). **There was a significant short-term effect on disability for acupuncture (MD -8, 95% CI -13 to -2)** and manual therapy (MD -6, 95% CI -11 to -2). Treatment with laser therapy resulted in better pain outcomes at medium-term follow-up but not at short-term follow-up. No other intervention demonstrated medium- or long-term effects.
Conclusion	**Some conservative interventions for neck pain are effective in the short term**. Few interventions that have been investigated have shown longer term effects that are better than placebo or minimal intervention.

1.1.14. Fu 2009 ★★

Fu LM et al. randomised controlled trials of acupuncture for neck pain: systematic review and meta-analysis. The Journal of Alternative and Complementary Medicine. 2009;15(2):133-145. [152456]

Purpose	The objectives of this study were to assess the effectiveness and efficacy of acupuncture in the treatment of neck pain.
Methods	Systematic review and meta-analysis were conducted on randomized controlled trials of acupuncture for neck pain. Two (2) reviewers independently extracted data concerning study characteristics, methods, and outcomes, as well as performed quality assessment based on the adapted criteria of Jadad.

Results	**Fourteen studies and 4249 patients** were included in this review. Meta-analysis was performed only in the absence of statistically significant heterogeneity among studies that were selected for testing a specific clinical hypothesis. While only a single meta-analysis was done in previous reviews, this review performed nine meta-analyses addressing different clinical issues. Seven out of nine meta-analyses yielded positive results. In particular, the meta-analysis based on the primary outcome of short-term pain reduction found that **acupuncture was more effective than the control in the treatment of neck pain**, with a pooled standardized mean difference (SMD) of 0.45 (95% confidence interval [CI], □0.69 to □0.22). Moreover, the meta-analysis with a pooled SMD of □0.53 (95% CI, □0.94 to □0.11) showed that **acupuncture was significantly more effective than sham acupuncture for pain relief**. However, there was limited evidence based on the qualitative analysis of the trial data to support the above conclusions.
Conclusion	The quantitative meta-analysis conducted in this review confirmed **the short-term effectiveness and efficacy of acupuncture in the treatment of neck pain**.

1.1.15. Wang 2009 ★

Wang Shi-Zhong, Lin Han-Ling, Song Hong-Mei, Zhong Wei-Hong, Wu Tai-Xiang, Liu Guan-Jian, Chen Shao-Qing. [Conservative in the treatment of protrusion of cervical vertebra intervertebral disc: A systematic review]. Chinese Journal of EBM. 2009;9(3):331-6.[168224].

Objective	To evaluate the effect and safety of the conservative treatment for the protrusion of cervical vertebra intervertebral disc.
Methods	We searched CBM disk (1978~2007), CNKI (1979~2007), VIP (1989~2007). Telephone interviewed the original authors of claimed randomized controlled trials(RCTs) to identify whether they are truly RCTs. Only true RCTs and quasi-randomized controlled trials were included and the quality of them was critically assessed.
Results	**Five RCTs and eleven quasi-randomized controlled trials** were identified and included. It showed that lifting-massage, massage combining with traction or **acupuncture**, articulus mobilization combining with traction and electrotherapy, traction combining with computer intermediate frequency therapeusis and injection ad acumen combining with massage **have marked improvement**. But it could hardly draw a conclusion that all the combining therapies had better curative effect.
Conclusions	Weak evidence shows that combining conservative treatment can improve the curative effect of the protrusion of cervical vertebra intervertebral disc. The results need to be supported by well designed and high quality trials.

1.1.16. Trinh 2007 ★★

Trinh K et al. Acupuncture for neck disorders. Spine. 2007;32(2):236-43.[143417]

Purpose	To determine the effects of acupuncture for individuals with neck pain.
Methods	We searched CENTRAL (2006, issue 1) and MEDLINE, EMBASE, MANTIS, Cumulative Index to Nursing and Allied Health Literature from their beginning to February 2006. We searched reference lists and the acupuncture database TCMLARS in China. Any published trials using randomized (RCT) or quasi-randomized (quasi-RCT) assignment to the intervention groups, either in full text or abstract form, were included.

Results	We found **10 trials** that examined acupuncture treatments for chronic neck pain. Overall, methodologic quality had a mean of 2.3 of 5 on the Jadad scale. For chronic mechanical neck disorders, there was moderate evidence that acupuncture was more effective for pain relief than some types of sham controls, measured immediately posttreatment. There was moderate evidence that acupuncture was more effective than inactive, sham treatments measured immediately posttreatment, and at short-term follow-up (pooled standardized mean difference, —0.37; 95% confidence interval, —0.61 to —0.12). There was limited evidence that acupuncture was more effective than massage at short-term follow-up. For chronic neck disorders with radicular symptoms, there was moderate evidence that acupuncture was more effective than a wait-list control at short-term follow-up.
Conclusion	There is **moderate evidence that acupuncture relieves pain better than some sham treatments**, measured at the end of the treatment. There is moderate evidence that those who received acupuncture reported less pain at short-term follow-up than those on a waiting list. There is also moderate evidence that acupuncture is more effective than inactive treatments for relieving pain posttreatment, and this is maintained at short-term follow-up.

1.1.17. Trinh 2006 ★★

Trinh K, Graham N, Gross A, Goldsmith Ch, Wang E, Cameron I, Kay T; cervical overview group. acupuncture for neck disorders. Cochrane Database Syst Rev. 2006;3:.[141363].

Background	Neck pain is one of the three most frequently reported complaints of the musculoskeletal system. Treatments for neck pain are varied, as are the perceptions of benefits. Acupuncture has been used as an alternative to more traditional treatments for musculoskeletal pain. This review summarizes the most current scientific evidence on the effectiveness of acupuncture for acute, subacute and chronic neck pain.
Objectives	To determine the effects of acupuncture for individuals with neck pain.
Methods	Search Strategy : we searched CENTRAL (2006, issue 1) and MEDLINE, EMBASE, MANTIS, CINAHL from their beginning to February 2006. We searched reference lists and the acupuncture database TCMLARS in China. Selection Criteria: any published trial using randomized (RCT) or quasi-randomized (quasi-RCT) assignment to the intervention groups, either in full text or abstract form, were included. Data Collection and Analysis: two reviewers made independent decisions for each step of the review: article inclusion, data abstraction and assessment of trial methodological quality. Study quality was assessed using the Jadad criteria. Consensus was used to resolve disagreements. When clinical heterogeneity was absent, we combined studies using random-effects meta-analysis models.
Main Results	We did not find any trials that examined the effects of acupuncture for acute or subacute pain, but we found **10 trials** that examined acupuncture treatments for chronic neck pain. Overall, methodological quality had a mean of 2.3/5 on the Jadad Scale.For chronic mechanical neck disorders, there was moderate evidence that acupuncture was more effective for pain relief than some types of sham controls, measured immediately post-treatment. There was moderate evidence that acupuncture was more effective than inactive, sham treatments measured immediately post-treatment and at short-term follow-up (pooled standardized mean difference (SMD) -0.37, 95% confidence interval (CI) -0.61 to -0.12). There was limited evidence that acupuncture was more effective than massage at short-term follow-up. For chronic neck disorders with radicular symptoms, there was moderate evidence that acupuncture was more effective than a wait-list control at short-term follow-up.

Authors' conclusions	**There is moderate evidence** that acupuncture relieves pain better than some sham treatments, measured at the end of the treatment. There is moderate evidence that those who received acupuncture reported less pain at short term follow-up than those on a waiting list. There is also moderate evidence that acupuncture is more effective than inactive treatments for relieving pain post-treatment and this is maintained at short-term follow-up.

1.1.18. Binder 2006 Ø

Binder A. Neck pain. Clin Evid. 2006;15:1654-75. [145589]

Systematic reviews of weak RCTs provided **insufficient evidence about the effects of acupuncture compared with a range of other treatments**, including sham acupuncture, sham transcutaneous electrical nerve simulation, diazepam, traction, short wave diathermy, and mobilisation in people with acute or chronic uncomplicated neck pain.

1.1.19. Kjellman 1999 Ø

Kjellman GV et al. A critical analysis of randomised clinical trials on neck pain and treatment efficacy. A review of the literature. Scand J Rheabil Med. 1999;31(3):139-52.[59814]

Purpose	The efficacy of physiotherapy or chiropractic treatment for patients with neck pain was analysed by reviewing 27 randomised clinical trials published 1966-1995.
Methods	Three different methods were employed: systematic analyses of; methodological quality; comparison of effect size; analysis of inclusion criteria, intervention and outcome according to The Disablement Process model. The quality of most of the studies was low; only one-third scored 50 or more of a possible 100 points. Positive outcomes were noted for 18 of the investigations, and the methodological quality was high in studies using electromagnetic herapy, manipulation, or active physiotherapy. **High methodological quality** was also noted in studies with traction and **acupuncture**, however, the interventions had either no effect or a negative effect on outcome.
Results	Pooling-data and calculation of effect size showed that treatments used in the studies **were effective for pain, range of motion, and activities of daily living**.
Conclusion	Inclusion criteria, intervention, and outcome were based on impairment in most of the analysed investigations. broader outcome assessments probably would have revealed relationships between treatment effect and impairment, functional limitation and disability.

1.1.20. White 1999 Ø

White AR, Ernst E. A systematic review of randomized controlled trials of acupuncture for neck pain. Rheumatology. 1999;38:143-7.[59027]

Purpose	To establish whether there is evidence for or against the efficacy of acupuncture in the treatment of neck pain.
Methods	A systematic literature review was undertaken of studies that compared needle or laser acupuncture with a control procedure for the treatment of neck pain. Two reviewers independently extracted data concerning study methods, quality and outcome.

Results	Overall, the outcomes of **14 randomized controlled trials** were equally balanced between positive and negative. Acupuncture was superior to waiting-list in one study, and either equal or superior to physiotherapy in three studies. Needle acupuncture was not superior to indistinguishable sham control in four out of five studies. Of the eight high-quality trials, five were negative.
Conclusion	In conclusion, the hypothesis that acupuncture is efficacious in the treatment of neck pain is not based on the available evidence from sound clinical trials. Further studies are justified.

1.2. Special Acupuncture Techniques

1.2.1. Comparison of acupuncture techniques

1.2.1.1. Wang 2025

Wang T, Gu Y, Li Y, Chen J, Zeng L. Different acupuncture treatments for myofascial pain syndrome in neck or shoulder: A network meta-analysis based on randomized controlled trials. J Pain Res. 2025 Aug 24;18:4289-4305. https://doi.org/10.2147/JPR.S543756

Background	Myofascial Pain Syndrome (MPS) is a prevalent musculoskeletal condition. Acupuncture therapy demonstrates significant advantages due to its unique mechanism of action. However, there are notable discrepancies in the evidence levels among various acupuncture therapies, and direct comparative data between different treatments remain scarce.
Methods	Randomized controlled trials (RCTs) investigating acupuncture therapy for MPS in neck or shoulder were systematically retrieved from CNKI, Wanfang, VIP, CBM, PubMed, EMbase, Cochrane Library, and Web of Science up to April 30, 2025. Network meta-analysis was conducted using Stata 16.0.
Results	This study included **29 RCTs**, involving a total of **2424 patients**. Thirteen types of interventions were evaluated in the experimental groups: Fu's subcutaneous needling, internal heat acupuncture, electroacupuncture, round-point needle, needle knife, moxibustion, sunken cord, acupoint injection, conventional acupuncture + moxibustion, conventional acupuncture + bloodletting, conventional acupuncture + traditional Chinese medicine (TCM), conventional acupuncture + Tuina, and conventional acupuncture + exercise. Regarding the Visual Analog Scale (VAS) scores, the top three therapies based on the Surface Under the Cumulative Ranking Curve (SUCRA) values were moxibustion (0.84), internal heat acupuncture (0.84), and conventional acupuncture + moxibustion (0.79). In terms of efficacy, based on the SUCRA rankings for both outcome indicators, internal heat acupuncture was identified as having the best overall effect.
Conclusion	Based on the findings of this study, multiple acupuncture methods exhibit significant advantages over conventional acupuncture. Comprehensive analysis indicates that internal heat acupuncture has the most favorable therapeutic effect.

1.2.1.2. Lin 2024

Lin Y, Zhong S, Huang C, Zhang G, Jiang G. The efficacy of acupuncture therapies in cervical spondylotic radiculopathy: A network meta-analysis. Heliyon. 2024 May 27;10(11):e31793. https://doi.org/10.1016/j.heliyon.2024.e31793

Objective	To evaluate the efficacy of acupuncture-related therapy in the Bayesian setting by means of a network Meta-analysis.
Methods	Relevant clinical randomized controlled trials(RCTs) of acupuncture-related therapy for Cervical Spondylotic Radiculopathy(CSR) were searched in the Chinese and English databases from the inception to November 13, 2023. Two researchers reviewed the literature, extracted the data, assessed the risk of bias of the included studies independently, and then used Stata14.0 and WinBUGs14 to analyze.
Results	There are **28 RCTs** in total, of which **2593 patients** and 14 acupuncture interventions. Network Meta-analysis revealed that, regarding the VAS scores, Acupoint catgut-embedding, Fu's Subcutaneous Needling and Needle Knife are better than Conventional acupuncture, Electro-acupuncture, Sham needle, Western Medicine, and Electrotherapy; Conventional acupuncture is better than Electrotherapy and Sham needle; Qihuang needle is superior to Sham needle and Electrotherapy; besides, Acupoint catgut-embedding is better than Tuina (Message), Chinese Medicine, Warm needle as well. Regarding the NDI scores, Needle Knife, Warm needle, Fire needle, Long round needle, Acupoint catgut-embedding are better than Conventional acupuncture, Electro-acupuncture, and Cervical traction; Conventional acupuncture is superior to Electro-acupuncture, Cervical traction, Needle Knife and Warm needle; whereas we found Qihuang needle is superior to Acupoint catgut-embedding, besides, Need Knife is superior to Qihuang needle, Long round needle and Acupoint catgut-embedding. In terms of improving the Tanaka Yasuhiro 20-point scale scores(TY), Needle Knife and Qihuang needle are superior to Conventional acupuncture, Warm needle and Electro-acupuncture; moreover, Conventional acupuncture is better than Warm needle.
Conclusion	In general, Acupoint catgut-embedding shows the best effect at relieving neck pain, then followed by Fu's Subcutaneous Needling and Needle Knife. Needle Knife is the best intervention in improving the functionality of the cervical spine. Like improving overall clinical performance, Needle Knife is the best treatment. Furthermore, our conclusion still needs to be confirmed by higher-quality documentation. In order to choose the best treatment for patients, clinicians are expected to take into account different clinical features and practical clinical settings with caution while choosing an acupuncture-related therapy in CSR.
Key message	This article aims at selecting the best acupuncture-related treatment for clinicians to help patients in CSR, and the results of this study indicated that Acupoint catgut-embedding shows the best effect in relieving neck pain, Needle Knife shows the best effect in improving the functionality of cervical spine, Needle Knife shows the best effect in treating overall clinical performance.

1.2.1.3. Jo 2022

Jo HR, Noh EJ, Oh SH, Choi SK, Sung WS, Choi SJ, Kim DI, Hong SU, Kim EJ. Comparative effectiveness of different acupuncture therapies for neck pain. Medicine (Baltimore). 2022 Aug 19;101(33):e29656. https://doi.org/10.1097/MD.0000000000029656

Background	Neck pain is a common musculoskeletal symptom that has negative effects on quality of life and work productivity. Acupuncture has been widely used for neck pain, and a number of randomized controlled trials (RCTs) and systematic reviews (SRs) have evaluated its effectiveness. However, previous studies have obtained inconsistent results regarding the effects of acupuncture for neck pain, and there is no SR for the comparative efficacy and safety of various types of acupuncture. Therefore, we herein conducted a SR and network meta-analysis to compare and rank different types of acupuncture with respect to their effectiveness in treating neck pain.

Methods	We searched 9 electronic databases for relevant RCTs published from their inception to July 1, 2021. Pairwise meta-analyses and network meta-analysis were performed with R software using the frequentist framework. Change of pain intensity was assessed as the primary outcome, and change of pain-related disability and efficacy rate were assessed as secondary outcomes. The Cochrane risk of bias tool and the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) instrument were used to evaluate the quality of the included RCTs and the certainty of the evidence.
Results	A total of **65 RCTs involving 5266 participants** and **9 interventions** were included. Three network meta-analyses were constructed for the following: pain intensity (42 RCTs, 3158 participants), pain-related disability (21 RCTs, 1581 participants), and efficacy rate (40 RCTs, 3512 participants). The results indicated that fire acupuncture, electroacupuncture, and warm acupuncture were more effective than manual acupuncture in terms of pain intensity reduction and efficacy rate, and that electroacupuncture decreased pain-related disability more effectively than manual acupuncture. Fire acupuncture ranked first among the 9 interventions. The overall q of evidence was very low according to the GRADE assessment. The reported adverse events were not serious.
Conclusion	Fire acupuncture, warm acupuncture, acupoint catgut embedding, and electroacupuncture ranked higher than other interventions (usual care, sham acupuncture, no treatment) in reducing the pain and disability index scores and the efficacy rate. However, the included trials were evaluated as being of low quality; thus, we recommend additional well-designed RCTs with larger sample sizes to confirm these findings.

1.2.2. Moxibustion

1.2.2.1. Huang 2020

Huang R, Huang Y, Huang R, Huang S, Wang X, Yu X, Xu D, Chen X. Thunder-Fire Moxibustion for Cervical Spondylosis: A Systematic Review and Meta-Analysis. Evid Based Complement Alternat Med. 2020. [205763]. doi

Background	Cervical spondylosis (CS) refers to the degenerative changes in the cervical spinal column, which affect the majority of middle-aged and elderly people. Thunder-fire moxibustion originated from thunder-fire miraculous needle, which has been applied widely for treating pain syndromes for thousands of years.
Objective	The aim of our research is to provide evidence to assess the efficacy and safety of thunder-fire moxibustion in treating CS. Methods and analysis. Retrieved literature databases included Cochrane Library, MEDLINE, Web of Science, EBSCO, EBASE, Springer, PubMed, WFDP, CNKI, VIP, and CBM. The period of retrieval was from the establishment of the database to December 2018. Randomized controlled trials which compared thunder-fire moxibustion and other therapies in CS were included. The quality of inclusive trials was accessed though a Cochrane risk of bias tool. According to the test results of heterogeneity, a random effect model or fixed effect model was used to analyze the data.

Results	Meta-analysis was conducted for the total effective rate of thunder-fire moxibustion, traditional Chinese medicine syndrome score, pain score, satisfaction score, and score of the symptoms and functional rehabilitation of cervical vertigo. The analysis results were as follows: compared with other therapies, the efficacy of thunder-fire moxibustion was statistically significant, total effective rate increased (OR = 2.48; 95% CI [1.80, 3.41]; P < 0.00001), traditional Chinese medicine syndrome score decreased (SMD = -3.05; 95% CI[-4.18, -1.93]; P < 0.00001), traditional Chinese medicine syndrome score decreased (SMD = -3.05; 95% CI[-4.18, -1.93]; P < 0.00001), traditional Chinese medicine syndrome score decreased (SMD = -3.05; 95% CI[-4.18, -1.93]; P < 0.00001), traditional Chinese medicine syndrome score decreased (SMD = -3.05; 95% CI[-4.18, -1.93]; P < 0.00001), traditional Chinese medicine syndrome score decreased (SMD = -3.05; 95% CI[-4.18, -1.93].
Conclusion	Based on the existing evidence, the curative effect and safety of thunder-fire moxibustion on CS were statistically significant. We should interpret the results scrupulously because of the low evidence level. Large-scale, high-quality, rigorous RCTs with long-term follow-up should be performed in the future.

1.2.2.2. Wu 2018 ☆

Wu Si-Si, Du Chun-Yan, Liu Hong-Xia, Su Chun-Xiang, Shang Ya-Bin, Hu Yue, Li Jia-Qi. [Meta-analysis of Randomized Controlled Trials in the Treatment of Heat-sensitive Moxibustion for Cervical spondylosis]. Guiding Journal of Traditional Chinese Medicine and Pharmacy. 2018;(7):. [115725].

Methods	All randomized clinical trials (RCTs) on the clinical efficacy and safety of HSM therapy for cervical [spondylosis were searched in CNKI, VIP, Wanfang, CBM, Pubmed, Embase database and Cochrane library by electronic and manual retrieval. The methodological quality of included studies was assessed according to the Cochrane Handbook 5. 0 and the improved Jadad scale. Then the Meta-analysis was performed using Rev Man 5. 3 software.
Results	A total of **16 literatures** were included, containing with a total of **1424 patients**. The baseline data of included studies were comparable. The Meta-analysis showed that: (1) Cure rate: thermal moxibustion VS traditional moxibustion, RR=2. 05, 95%CI (1. 57, 2. 67) (P<0. 01). Thermal moxibustion VS acupuncture, RR=1. 51, 95% CI (1. 10, 2. 07) (P<0. 05) , the differences were statistically significant. (2) Effective rate: thermal moxibustion VS traditional moxibustion, RR= 1. 23, 95%CI (1. 15, 1. 32) (P<0. 01). Thermal moxibustion plus acupuncture VS acupuncture, RR=1. 17, 95% CI (1. 08, 1. 26) (P<0. 01) , the differences were statistically significant. The sensitivity analysis showed the merged results were relatively stable. Only two literatures mentioned there were no adverse reactions during the test, and the other tests did not describe the adverse reactions. Funnel plot analysis showed a publication bias in the literature.
Conclusion	**Thermal moxibustion therapy for cervical spondylosis is relatively effective and safe**, but the conclusion is not clear due to the limited literatures and the suboptimal methodological quality of RCTs. So more high-quality and multi-center RCTs with large sample are needed to confirm the clinical efficacy and safety of heat-sensitive moxibustion therapy.

1.2.3. Warm Needle

1.2.3.1. Wang 2011

Wang Yan-Wen, Fu Wen-Bin, Peng Han-Guo, Ou Ai-Hua. [Systematic reviews of clinically randomized controlled trials on warming acupuncture treating cervical spondylosis]. Liaoning Journal of Traditional

Chinese Medicine. 2011;2:340-344.[187036].

Objective	To assess the methodological quality and effect of clinically randomized controlled trials on warming acupuncture treatting cervical spodylosis and make out the current situation, validity of effect and applicability.
Methods	Search the PubMed, Medline, CNKI, VIP and CMAJ electronic database, and then exclud duplicated, independent and non-randomized controlled trials. At last, the trial which meet inclusion criteria was selected. To evaluate the quality of these documents with Cochrane reviews handbook 5. 0 and therapeutic effect with Review Manage 4. 2. 7 software.
Results	**9 studies, total of 945 cases** were enrolled. 9 studies use response rate as primary outcome measures. Meta-analysis show there is no sufficient evidence that warming acupuncture is better than electrical acupuncture;To compares warming acupuncture with conventional acupuncture, western medicine, and comprehensive methods of warming acupuncture with electrical acupuncture, combination therapy with conservative treatmen, there is no significant advantage.
Conclusion	Systematic reviews can not suggest advantages of warming acupuncture, which relate to small sample studies, low quality literature. **Attention must be paid to synergism of acupuncture and moxibustion,** randomized controlled trials of large sample and high-quality on warming acupuncture treating cervical spodylosis, A practicable blinding of acupuncture is the pressing problem at present.

1.2.4. Fu's subcutaneous needling

1.2.4.1. Ren 2025

Ren H, Wang X, Fang T, Liu L, Zhao X, Lv J, Liu F. Efficacy of Fu's subcutaneous needling in the treatment of neck-type cervical spondylosis: A systematic review and meta-analysis. Medicine (Baltimore). 2025 Sep 5;104(36):e44299. https://doi.org/10.1097/MD.0000000000044299

Background	As a minimally invasive technique, Fu's subcutaneous needling (FSN) has been widely adopted in Chinese clinical practice for managing neck-type cervical spondylosis (CS). However, current evidence regarding its therapeutic efficacy remains inconclusive due to methodological limitations in existing studies. This systematic review and meta-analysis therefore sought to quantitatively synthesize available randomized controlled trials to evaluate the clinical effectiveness and safety of FSN for this prevalent musculoskeletal disorder.
Methods	This study protocol was prospectively registered in PROSPERO (Registration ID: CRD420251036627). The databases searched include PubMed, Embase, Cochrane Library, Web of Science, China National Knowledge Infrastructure, Wanfang Data Knowledge Service Platform (Wanfang), VIP Database (VIP), and China Biology Medicine disc (CBM). A comprehensive search was conducted across the 8 electronic databases from their inception through April 18, 2025. Eligible studies included randomized controlled trials comparing FSN with non-FSN therapies for neck-type CS.
Results	This study included **10 clinical studies with a total of 696 patients** suffering from neck-type CS. The results of the meta-analysis revealed that the experimental group had significant advantages over the control group in terms of clinical efficacy. Specifically, for the total effective rate (odds ratio = 5.45, 95% confidence intervals [CI] = [2.75, 10.81], Z = 4.85, P < .00001), cure rate (odds ratio = 2.25, 95% CI = [1.51, 3.34], Z = 4.01, P < .00001), visual analogue scale score (VAS, mean difference = -1.21, 95% CI = [-1.30, -1.12], Z = 25.10, P < .00001), and Neck Disability Index score (NDI, mean difference = -1.33, 95% CI = [-1.92, -0.75], Z = 4.48, P < .00001), the experimental group outperformed the control group.

Conclusion	This study indicates that FSN is a safe and effective strategy for managing neck-type CS. Therefore, it can be considered as a common clinical treatment modality for neck-type CS.

1.2.5. Thumbtack needle

1.2.5.1. He 2026

He J, Lai P, Chen X, Liu J, Wang Z, Jia C, Liu Y, Cheng S. Efficacy and safety of the thumbtack needle for neck pain: a systematic review and meta-analysis. Front Pain Res (Lausanne). 2026 Jan 12;6:1687334. https://doi.org/10.3389/fpain.2025.1687334

Background	Neck pain (NP) is a common musculoskeletal disorder that significantly affects the physical function and quality of life of patients. Thumbtack needle therapy is widely used to manage NP. However, previous studies have reported inconsistent clinical outcomes. This study aims to systematically evaluate the efficacy and safety of thumbtack needle therapy for NP.
Methods	A systematic search was conducted in the Cochrane Library, Web of Science, Embase, PubMed, China National Knowledge Infrastructure (CNKI), China Science and Technology Journal (VIP), and Wanfang databases from their inception to 24 September 2023 for randomized controlled trials (RCTs) on thumbtack needle therapy for NP. Outcome measures included the visual analog scale (VAS) scores, neck disability index (NDI) scores, total effective rate, and adverse events. A meta-analysis was performed using Review Manager 5.3. The quality of evidence was assessed using the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) system.
Results	**Seven RCTs involving 425 patients** were included. Compared with the control group, thumbtack needle therapy significantly reduced VAS scores (MD = -1.33, 95% confidence interval (CI): -1.63, -1.03; $Z = 8.65$; $P < 0.05$), reduced NDI scores (MD = -5.54, 95% CI: -9.73, -1.35; $Z = 2.59$; $P < 0.05$), and improved the total effective rate (OR = 0.27, 95% CI: 0.10, 0.70; $Z = 2.67$; $P < 0.05$). Adverse events were not reported in several studies, limiting conclusions on safety. A subgroup analysis revealed that heterogeneity may be related to the variation in combination therapies and treatment course. A sensitivity analysis confirmed the robustness of the results. The overall quality of evidence ranged from very low to moderate.
Conclusion	This study found that thumbtack needle therapy can effectively relieve pain and improve cervical mobility in patients with NP. The reduction in VAS scores reached the level of the minimum clinically important difference, indicating that thumbtack needle treatment for neck pain has a clinically significant impact. In the future, high-quality RCTs are needed to further validate the clinical efficacy of thumbtack needle therapy for NP.

1.2.6. Acupotomy

1.2.6.1. Zhang 2025

Zhang L, Zhang Z, Yuan Y, Zhang N. Ultrasound-guided acupotomy for cervical spondylosis: a systematic review and meta-analysis based on GRADE quality assessment. Front Pain Res (Lausanne). 2025 Nov 14;6:1654265. https://doi.org/10.3389/fpain.2025.1654265

Background	Objective: This study aimed to evaluate the effectiveness of ultrasound-guided acupotomy (UgA) in treating Cervical spondylosis (CS), particularly in pain relief, improvement in cervical range of motion (CROM), and overall clinical efficacy, through a systematic review and meta-analysis based on GRADE quality assessment.
Methods	Following PRISMA guidelines, we searched databases including PubMed, Embase, Cochrane Library, Web of Science, and CNKI, Wanfang, Weipu, and Sinomed, identifying 33 randomized controlled trials (RCTs). Inclusion criteria were: patients aged 18-70 with a diagnosis of CS, intervention with UgA, and control groups receiving placebo, physical therapy, or other conventional treatments. Primary outcomes included clinical effective rate and Visual Analog Scale (VAS) for pain, while secondary outcomes encompassed Neck Disability Index (NDI), CROM, and mean flow velocity of vertebral and basilar arteries (MFV-VA/BA). Study quality was assessed using the Cochrane Risk of Bias 2.0 tool, and meta-analysis was conducted using Stata 15.0. The GRADE approach was used to evaluate evidence quality.
Results	Meta-analysis revealed that UgA significantly improved the clinical effective rate compared to control treatments (RR = 1.17, 95% CI: 1.13-1.21), with low heterogeneity (I2 = 12%). UgA also demonstrated significant pain reduction (WMD = -0.96, 95% CI: -1.25 to -0.67), albeit with high heterogeneity (I2 = 91.6%). For secondary outcomes such as NDI, CROM, and MFV-VA/BA, UgA showed moderate improvements, but with considerable heterogeneity. GRADE assessment indicated high-quality evidence for the clinical effective rate, while evidence for VAS, NDI, and CROM was rated as low or very low due to heterogeneity and publication bias.
Conclusion	UgA shows superior efficacy for pain and disability in cervical spondylosis compared to non-UgA and other acupuncture related therapies. However, heterogeneity and potential publication bias exist. It requires skilled practitioners and real-time ultrasound guidance for treatment. Future multinational randomized trials with standardized protocols are needed.

1.2.6.2. Fang 2017

Fang Ting, Liu Fushui, Xie Hongwu, Zhou Fanyuan, Zhao Meimei, Chen Mei. [Meta-analysis of Acupotomy Versus Acupuncture for Neck Type Cervical Spondylosis]. Liaoning Journal of Traditional Chinese Medicine. 2017;11:. [46789].

Background	Acupotomology has become a commonly-used therapy for the treatment of neck type cervical spondylosis (NTCS), but there are no systematic reviews of randomized clinical trials on acupotomology and acupuncture.
Objective	To evaluate the therapeutic effect and safety acupotomology versus acupuncture for NTCS.
Methods	Randomized controlled trials (RCTs) about acupotomology in the treatment of NTCS were retrieved from Pub Med (1966 to 2016), Cochrane (1993 to 2016), CNKI (1979 to 2016), VIP (1989 to 2016) and Wangfang (1990-2016). The date was extracted and evaluated by two reviewers independently according to Cochrane Reviewers' Handbook, and then cross check the date with each other. The Cochrane Collaboration's Rev Man 5. 3 software was used for Meta-analysis.
Results	Totally 5 RCTs involving 444 cases were included. The results of Meta-analysis showed that the total effect rate and cute rate for the short-term and the total effect rate for the long-term of the acupotomology for the NTCS were both higher than those of the acupuncture.
Conclusion	Acupotomology is better than the acupuncture in the treatment of NTCS. But due to the low number and low quality of included studies, more RCTs which have large sample should be rigorously designed to confirm from now on.

1.2.6.3. Kan 2013 ★

Kan LL, Wang HD, Liu AG. [Meta-analysis of needle-knife treatment on cervical spondylosis]. Zhongguo Gu Shang. 2013;26(11):935-9. [186909]

Purpose	To assess the efficacy of cervical spondylosis by needle-knife treatment according to the correlated literature of RCT,to compare advantages of needle-knife treatment.
Methods	Randomized Controlled Trials about needle-knife treatment of cervical spondylosis were indexed from Chinese HowNet (CNKI) and Wanfang (WF) from 2000 to 2012, then were analyzed the efficacy by Review Manager 5.1 software.
Results	A total of **13 RCT literatures and 1 419 patients** were included. The methods of included studies were poor in quality evaluation because of large sample and multi-center RCT studies was lacked, randomization method was not accurate enough, diagnostic criteria and efficacy evaluation were various, only four studies described long-term efficacy, most of the literature didn't describe the adverse event and fall off,all studies did not use the blind method. The Meta analysis outcome showed overall efficiency of needle-knife therapy was better than acupuncture and traction. Needle-knife therapy compared with Acupuncture, the total RR = 0.19, 95% confidence interval was (0.15, 0.24), P < 0.000.01. Compared with traction therapy the total RR = 1.30, 95% confidence intervalwas (1.18,1.42), P < 0.00001.
Conclusion	**Compared with acupuncture therapy,the overall effectiveness of needle-knife therapy is higher;compared with traction therapy, although,needle-knife therapy has a high overall effectiveness** , but because of the loss of total sample size, the outcome RCT researches to confirm.

1.2.6.4. Liu 2012 ★

Liu Fu-shui, Zhang Yi, Zhong Ding-wen. [Meta-analysis of acupotomology versus acupuncture for cervical spondylopathy]. Journal of Clinical Rehabilitative Tissue Engineering Research. 2012;9:1622. [186993]

Objective	To evaluate the efficacy and safety of acupotomy and acupuncture in the treatment of cervical spondylopathy.
Methods	The data from CBM (1978/2010), CNKI (1979/2010), VIP (1989/2010), PubMed (1966/2010) and Cochrane Library (2010) were searched by computer, Supplemented by manual retrieval of relevant journals, acupuncture and acupuncture into the comparison of the treatment of cervical disease randomized controlled trials. Data were extracted and cross-checked by two reviewers according to Cochrane Systematic Review Handbook 5. 0, and Meta-analysis was performed using RevMan5.1 software.
Results and conclusions	A total of **10 randomized controlled trials involving 1085 patients** were included. Meta-analysis showed that the **total effective rate and cure rate of acupotomy group were significantly higher than those of acupuncture and moxibustion group, and the improvement of symptom scores was better than acupuncture and moxibustion group, which indicated that acupuncture treatment had better curative effect than acupuncture** . However, the number of articles included in the trial is limited and the quality of the literature is low, the need to design more stringent randomized controlled trials to further verify the above conclusions.

1.2.7. Electro-acupuncture

1.2.7.1. Yang G 2006 ★

Yang G, Wang XQ. [Systematic review of efficacy of electro-acupuncture treatment of cervical disease]. Beijing J Trad Chinese Med. 2006; 25(7):433-5. [181530].

Objective	To evaluate acupuncture treatment of cervical spondylosis effects.
Methods	We searched Medline, Embase, Lilacs, Chinese Biomedical Literature Database and Cochrane muscle disease group Registration database retrieval time for the deadline to June 2005; at the same time to retrieve other relevant gray literature get all involved in acupuncture treatment of cervical disease in randomized controlled trials. Then select met the inclusion criteria for clinical trials to evaluate their methodological quality, and extracted the basic condition of the patient, and other interventions, outcome measures and results Info systematic evaluation.
Results	a total of **five randomized controlled trials in a total of 626 cases** of patients met the inclusion criteria, but because of the existence of obvious defects exist between test and large differences in experimental design, the report does not meet the conditions of Meta-analysis, therefore only qualitative analysis. The results for the three acupuncture trials test group showed that acupuncture treatment of cervical disease than the traction or Western medicine has a good effect (P <0.05); but EA is two experimental group showed that acupuncture efficacy of combination therapy is better (P <0.05).
Conclusion	**the present limited the included trials showed that acupuncture treatment of cervical disease has a certain effect in improving symptoms**, acupuncture for treatment of cervical spondylosis superiority still need more high quality, good internal validity It randomized controlled trials to confirm.

1.2.8. Laser therapy

1.2.8.1. Chow 2009 ★★

Chow RT, Johnson MI, Lopes-Martins RA, Bjordal JM. Efficacy of low-level laser therapy in the management of neck pain: a systematic review and meta-analysis of randomised placebo or active-treatment controlled trials. Lancet. 2009;374(9705):1897-908. [133480]

Background	Neck pain is a common and costly condition for which pharmacological management has limited evidence of efficacy and side-effects. Low-level laser therapy (LLLT) is a relatively uncommon, non-invasive treatment for neck pain, in which non-thermal laser irradiation is applied to sites of pain. We did a systematic review and meta-analysis of randomised controlled trials to assess the efficacy of LLLT in neck pain.
Methods	We searched computerised databases comparing efficacy of LLLT using any wavelength with placebo or with active control in acute or chronic neck pain. Effect size for the primary outcome, pain intensity, was defined as a pooled estimate of mean difference in change in mm on 100 mm visual analogue scale.

Findings	We identified **16 randomised controlled trials including a total of 820 patients**. In acute neck pain, results of two trials showed a relative risk (RR) of 1.69 (95% CI 1.22-2.33) for pain improvement of LLLT versus placebo. Five trials of chronic neck pain reporting categorical data showed an RR for pain improvement of 4.05 (2.74-5.98) of LLLT. Patients in 11 trials reporting changes in visual analogue scale had pain intensity reduced by 19.86 mm (10.04-29.68). Seven trials provided follow-up data for 1-22 weeks after completion of treatment, with short-term pain relief persisting in the medium term with a reduction of 22.07 mm (17.42-26.72). Side-effects from LLLT were mild and not different from those of placebo.
Interpretation	We show that **LLLT reduces pain immediately after treatment in acute neck pain and up to 22 weeks after completion of treatment in patients with chronic neck pain.**

1.2.9. Dry Needling

1.2.9.1. Cagnies 2015 ★

Cagnie B, Castelein B, Pollie F, Steelant L, Verhoeyen H, Cools A. Evidence for the use of ischemic compression and dry needling in the management of trigger points of the upper trapezius in patients with neck pain: a systematic review. Am J Phys Med Rehabil. 2015. 94(7):573-83. [183455].

Purpose	The aim of this review was to describe the effects of ischemic compression and dry needling on trigger points in the upper trapezius muscle in patients with neck pain and compare these two interventions with other therapeutic interventions aiming to inactivate trigger points.
Methods	Both PubMed and Web of Science were searched for randomized controlled trials using different key word combinations related to myofascial neck pain and therapeutic interventions. Four main outcome parameters were evaluated on short and medium term: pain, range of motion, functionality, and quality-of-life, including depression.
Results	**Fifteen randomized controlled trials** were included in this systematic review. There is moderate evidence for ischemic compression and **strong evidence for dry needling to have a positive effect on pain intensity**. This pain decrease is greater compared with active range of motion exercises (ischemic compression) and no or placebo intervention (ischemic compression and dry needling) but similar to other therapeutic approaches. There is moderate evidence that both ischemic compression and dry needling increase side-bending range of motion, with similar effects compared with lidocaine injection. There is weak evidence regarding its effects on functionality and quality-of-life.
Conclusions	On the basis of this systematic review, ischemic compression and **dry needling can both be recommended in the treatment of neck pain patients with trigger points in the upper trapezius muscle**. Additional research with high-quality study designs are needed to develop more conclusive evidence.

1.2.10. Abdominal Acupuncture

1.2.10.1. Wang 2011 ★

Wang YW, Fu WB, Ou AH, Fang L, Huang YF. A systematic review of randomised controlled trials of abdominal acupuncture treatment of cervical spondylosis. Acupuncture Research. 2011;36(2):137-144. [159639]

Purpose	To assess the effect and methodological quality of clinically randomized controlled studies on abdominal acupuncture therapy for cervical spondylosis and to make out its current situation, validity and applicability.
Methods	Using the PubMed, CNKI (China Academic Journals Full-text Database), VIP (VIP Chinese Science and Technology Periodicals Database) and Wanfang Digital Periodicals Electronic Database covering the period of 1989-2009, we did a literature search on the original articles of abdominal acupuncture treatment of cervical spondylosis and selected those accorded with the standards of randomized controlled studies. Animal studies, surveys, and news articles, and those duplicated, being absent in diagnostic criteria and non-randomized controlled trials were excluded. The papers' quality was analyzed by using the Jadad quality assessment scoring system and the therapeutic effect evaluated by using Review Manage 4. 2. 7 software.
Results	A total of **8 papers containing 909 cervical spondylosis patients** and written in Chinese were included. These 8 studies used the effective rate as the primary outcome, 2 of them used the McGill Pain Questionnaire scales at the same time. Meta-analysis showed that the abdominal acupuncture group was better than the control group in visual analogue scale score (P.c:0. 05). No significant differences were found between abdominal acupuncture and routine acupuncture [OR= 3.29, 95% 01(0.13, 82.99)]. EA [OR = 2.09, 95% Cl(0.36, 11.95)] and traction therapy [OR = 6.06 ,95 % Cl(3.01, 12.18)] in the total effective rate, pain rating index score [WMD = — 2.24,95% Cl(-5.29,0.81)] and the present pain intensity score [WMD = 0.84,95% Cl(-2.13,0.44)].
Conclusion	At the present, there has been **no sufficient evidence to ensure that in the treatment of cervical spondylosis the abdominal acupuncture therapy is superior to routine acupuncture, EA and traction therapy**. Attention should be paid to the randomized controlled study of larger samples and qualified design.

1.2.10.2. Yang L 2012 ★

Yang Lei, Fu Wen-Bin, Zhang Guang-Cai, Huang Ye-Fei1, Zhang Min-Min. [Systematic review on effect of abdominal acupuncture for cervical spondylosis]. China Journal of Traditional Chinese Medicine and. 2012;2:319-323. [186914].

Objective	To assess the clinical effect of abdominal acupuncture in the treatment for cervical spondylosis.
Methods	Randomized controlled trials (RCTs) involving abdominal acupuncture for cervical spondylosis were identified from PubMed, Medline, CBM, CNKI, VIP electronic database, selected the trials which meet inclusion and exclusion criteria. Data statistical analyses were performed by Review Manager 5. 0. 24 software.
Results	A total of **10 trials involving 1 104 patients** were included. Meta analyses showed that compared with conventional acupuncture and electro-acupuncture the abdominal acupuncture showed abdominal acupuncture more effective than conventional acupuncture and electro-acupuncture;compared the abdominal acupuncture with the cervical vertebra traction, showed the effective rate of abdominal acupuncture was higher than the cervical vertebra traction.
Conclusion	The Meta-analysis showed **the abdominal acupuncture in the treatment for cervical spondylosis has advantages**. However, the evidence is not strong enough because of some of the low-quality trials and publications bias. Large sample, high-quality, multicenter, rigorous designs trials of abdominal acupuncture for cervical spondylosis are needed to further assess the effect.

1.2.11. Wrist-ankle Acupuncture

1.2.11.1. Fu 2018

Fu Yingyue, Dong Longcong, Pan Jianxiang, Xiang Kaiwei. [A Meta-analysis on Treating Cervical Spondylotic Radiculopathy with Wrist-ankle Acupuncture and its Combination Therapy]. Journal of Guiyang College of Traditional Chinese Medicine. 2018;5:34-40. [201779].

目的:系统评价腕踝针及腕踝针联合其他疗法对神经根型颈椎病患者的临床疗效. 方法:计算机检索CNKI□万方数据库□CBM□PubMed□Embass□Medline数据库, 检索时间为建库至2018年5月. 由两位研究员独立筛选文献, 提取文献资料及评估偏倚风险并采用RevMan5.3软件对数据进行分析. 结果:共纳入12个RCT,总样本量为979例, 试验组510例, 对照组469例.Meta分析结果显示:10个研究显示腕踝针及联合疗法组治疗本病的有效率优于使用非腕踝针疗法组[OR=2.79,95□CI(1.87,4.16),P□0.00001],单纯腕踝针组与非腕踝针组有效率相当[OR=0.75,95□CI(0.24,2.31),P=0.62],而其联合疗法组则优于非腕踝针组[OR=3.14,95□CI(1.99,4.97),P□0.00001];8个研究显示腕踝针组及其联合疗法组对患者的VAS评分水平改善均优于非腕踝针组[WMD=-1.06,95□ CI(-1.69-0.43),P=0.001].结论:腕踝针及其联合疗法在治疗本病的临床有效率与缓解疼痛方面较非腕踝针疗法具有优势性. 但受限于所纳入文献质量普遍不高、数量较少等因素, 本研究结论可能存在偏倚, 还需将来开展更多高质量的随机对照双盲试验予以验证.	
OBJECTIVE	To systematically evaluate the clinical efficacy of wrist-ankle and wrist-ankle combined with other therapies in patients with cervical spondylotic radiculopathy.
Methods	Computer search CNKI, Wanfang database, CBM, PubMed, Embass, Medline database, the retrieval time is built to In May 2018, two researchers independently screened the literature, extracted literature data and assessed the risk of bias and analyzed the data using RevMan5.3 software.
Results	A total of 12 RCTs were included, with a total sample size of 979 cases and a test group of 510 cases. 469 cases in the control group. Meta-analysis showed that 10 studies showed that the treatment of this disease was better in the treatment of this disease than in the non-wrist-ankle group [OR=2.79, 95% CI (1.87, 4.16) , P <0.00001], the simple wrist-twist group and the non-wrist-needle group were equally effective [OR=0.75, 95% CI (0.24, 2.31), P=0.62], while the combination therapy group was superior to the non-wristing group. The needle group [OR=3.14, 95% CI (1.99, 4.97), P<0.00001]; 8 studies showed that the wristband and the combination therapy group improved the VAS score of the patients better than the non-wrist ankle group [WMD=-1.06, 95% CI (-1.69-0.43), P=0.001].
Conclusion	Wrist-ankle and its combination therapy are effective in treating the disease and alleviating pain. It is more advantageous than non-ankle-ankle acupuncture. However, due to factors such as the generally low quality and low quantity of the included literature, the conclusions of this study may be biased, and more high-quality randomized controlled double-blind trials will be needed in the future. verification.

1.3. Special Clinical Forms

1.3.1. Acute Neck Pain, Whiplash Syndrome

See corresponding item

1.3.2. Nape dorsal myofascial pain syndrome

1.3.2.1. Zhang 2025

Frontiers in Medicine (Lausanne). 2025 Dec 11;12:1678696. Acupuncture combined therapy for the treatment of nape dorsal myofascial pain syndrome: meta-analysis, systematic evaluation, and GRADE evaluation. https://doi.org/10.3389/fmed.2025.1678696

Objective	This study aimed to assess the therapeutic efficacy and safety risks of acupuncture combined therapy in nape dorsal myofascial pain syndrome (MPS) management.
Methods	Clinical randomized controlled trials of acupuncture combined therapy for nape dorsal myofascial pain syndrome were retrieved from databases such as China National Knowledge Infrastructure (CNKI), VIP Chinese Journal Platform, Wanfang Data, SinoMed, Web of Science, PubMed, Embase, and Scopus, covering publications from respective inception dates until 26 February 2025. Methodological quality appraisal involved dual assessments: GRADEprofiler 3.6 evaluated evidence certainty, while the Cochrane risk of bias (RoB) 2.0 tool analyzed bias risk. Statistical computations encompassed meta-analysis, heterogeneity analysis, sensitivity analysis, subgroup analysis, publication bias analysis, and trim-and-fill methods performed using StataSE 15, stateMP 18, and RevMan 5.4.
Results	The systematic review incorporated **21 randomized controlled trials** with a pooled cohort of 1,630 patients. Meta-analysis revealed that compared with control groups, acupuncture combined therapy can improve Visual Analogue Scale (VAS) score [standardized mean difference (SMD) = -1.51, 95% confidence interval (CI) (-2.12, -0.90), $p < 0.00001$], clinical effective rate [relative risk (RR) = 1.15, 95% CI (1.1, 1.2), $p < 0.00001$], range of motion (ROM) flexion [MD = 7.76, 95% CI (0.64, 14.88), $p = 0.03$], Pain Rating Index (PRI) score [MD = -0.45, 95% CI (-0.52, -0.38), $p < 0.00001$], and Oswestry score [MD = -0.30, 95% CI (-0.59, -0.01), $p = 0.05$]. Subgroup analysis indicated that acupuncture combined therapy demonstrated greater efficacy in pain reduction and cervical dysfunction improvement for patients with a mean age >35 years. Publication bias analysis identified potential bias for the VAS score and clinical effective rate, which may affect the reliability of VAS conclusions but not the clinical effective rate.
Conclusion	Acupuncture combined therapy demonstrates clinically significant short-term benefits for nape dorsal MPS in pain relief and clinical effective rate. Existing limited evidence shows a low incidence of adverse events, but the risk profile cannot be fully clarified due to insufficient safety reporting in the majority of studies. Future rigorously designed, high-quality studies with diverse populations are needed to verify these findings.

2. Cost-Effectiveness Analysis

See corresponding item

3. Clinical Practice Guidelines

⊕ positive recommendation (regardless of the level of evidence reported)
Ø negative recommendation (or lack of evidence)

3.1. German Society of General Practice and Family Medicine (DEGAM, Germany) 2025 ⊕

El-Allawy A, Hecht N, Luedtke K, Schleicher P, Weidner N, Kötter T. Clinical Practice Guideline: Nonspecific Neck Pain. Dtsch Arztebl Int. 2025 Oct 3;122(20):552-557.

https://doi.org/10.3238/arztebl.m2025.0119

Acupuncture (for the treatment of chronic nonspecific neck pain in combination with activating methods; LoE I)

3.2. American Psychological Association (APA, USA) 2024 ⊕

American Psychological Association (2024). Guideline for Psychological and Other Nonpharmacological Treatment of Chronic Musculoskeletal Pain in Adults. Retrieved from https://www.apa.org/practice/guidelines/nonpharmacological-treatment-chronic-musculoskeletal-pain.pdf

For patients *with chronic neck pain*, the panel suggests offering patients acupuncture over sham, placebo, or usual care for shortand intermediate-term pain relief (Strength/Direction: Conditional For).

3.3. Centers for Disease Control and Prevention (CDC, USA) 2022 ⊕

Dowell D, Ragan KR, Jones CM, Baldwin GT, Chou R. CDC Clinical Practice Guideline for Prescribing Opioids for Pain - United States, 2022. MMWR Recomm Rep. 2022 Nov 4;71(3):1-95. https://doi.org/10.15585/mmwr.rr7103a1

Clinicians should recommend appropriate noninvasive nonpharmacologic approaches to help manage chronic pain, such as [...] mind-body practices (e.g., yoga, tai chi, or qigong), massage, and **acupuncture** for *neck pain*.

3.4. American Academy of Family Physicians (AAFP, USA) 2021 ⊕

AAFP Chronic Pain Toolkit. American Academy of Family Physicians. 2021. [188191]. URL

Chronic pain : Non-opioid analgesics, physical therapy, cognitive behavioral therapy, rehabilitation, exercise, integrative medical therapies (e.g., yoga, relaxation, tai chi, massage, and **acupuncture**), opioids on a case-by-case basis. Acupuncture : indications Low back pain, fibromyalgia, chronic headache, **neck pain**. Magnitude to benefit pain and function: small to moderate.

3.5. Agency for Care Effectiveness, Ministry of Health (ACE, Singapore) 2020 ⊕

Technology Guidance from the MOH Medical Technology Advisory Committee. Acupuncture for adults with low back pain and neck pain. Agency for Care Effectiveness, Ministry of Health, Republic of Singapore. 2020. [196853]. URL.

Guidance Recommendations. The Ministry of Health's Medical Technology Advisory Committee has recommended: Needled acupuncture (with or without electro stimulation) performed in public healthcare institutions (PHIs) for pain reduction or functional improvement in adults aged 18 years and above as clinically appropriate for:
- Low back pain,
- **Neck pain**, including pain radiating to the neck, or from neck to shoulders.
It can be administered for up to 12 sessions within 3 months from treatment initiation following formal diagnosis and recommendation by a referring medical specialist in a PHI. Subsequent treatment up to 12 more sessions within the next 3 months is subject to the reviewing medical specialist's assessment of sustained pain reduction or functional improvement for the patient. It shall be performed by acupuncturists registered with the Traditional Chinese Medicine Practitioners Board (TCMPB) in accordance with minimum practice standards defined by the TCM Branch of MOH.
Subsidy status. Subsidy for needled acupuncture (with or without electro stimulation) for the above mentioned criteria is applicable only for treatments performed in public healthcare institutions.

3.6. Agency for Healthcare Research and Quality (ARQ, USA) 2020 ⊕

Skelly AC, Chou R, Dettori JR, Turner JA, Friedly JL, Rundell SD, Fu R, Brodt ED, Wasson N, Kantner S, Ferguson AJR. Noninvasive Nonpharmacological Treatment for Chronic Pain: A Systematic Review Update [Internet]. . 2020;:607p. [208656]. doi

Interventions that improved function and/or pain for ≥1 month: Exercise, low-level laser, mind-body practices, massage, **acupuncture**.
Acupuncture: Acupuncture was associated with small improvements in short-term (5 trials) and intermediate-term (3 trials) function versus sham acupuncture, a placebo (sham laser), or usual care; one trial reported no difference in function in the long term (SOE: low for all time periods). For pain, there were no differences for acupuncture versus sham acupuncture or placebo interventions in the short (4 trials), intermediate (3 trials), or long (1 trial) term (SOE: low for all time periods).

3.7. AIM Specialty Health (USA) 2019 ⊕

Spine Surgery. Musculoskeletal Program Clinical Appropriateness Guidelines. AIM Specialty Health. 2019;:42P. [198043].

Cervical Decompression With or Without Fusion/ Cervical Disc Arthroplasty/ Lumbar Disc Arthroplasty/ Lumbar Discectomy, Foraminotomy, and Laminotomy/ Lumbar Fusion and Treatment of Spinal Deformity (including Scoliosis and Kyphosis)/ Lumbar Laminectomy. Conservative management should include a combination of strategies to reduce inflammation, alleviate pain, and improve function, including but not limited to the following: [Alternative therapies such as **acupuncture**]. The requirement for a period of conservative treatment as a prerequisite to a surgical procedure is waived when there is evidence of progressive nerve or spinal cord compression resulting in a significant neurologic deficit, or when myelopathy, weakness, or bladder disturbance is present.

3.8. American Chronic Pain Association (ACPA, USA) 2019 ⊕

American Chronic Pain Association Resource Guide to Chronic Pain management, An Integrated Guide to Medical, Interventional, Behavioral Pharmacologic and Rehabilitation Therapies. Feinberg S (ed.) American Chronic Pain Association Inc., Rocklin, California. 2019:156p. [219425]. URL

Acupuncture has been gaining popularity in the United States since the 1970s, and, in wake of increasing acceptance by both the public and medical professionals, it is now covered by many insurance policies. In the field of chronic pain medicine, there is a strong body of research supporting the efficacy of acupuncture for headache, osteoarthritis, and musculoskeletal conditions, such as **neck** and lower back pain

3.9. Agency for Healthcare Research and Quality (ARQ, USA) 2018 ⊕

Noninvasive Nonpharmacological Treatment for Chronic Pain: A Systematic Review. Agency for Healthcare Research and Quality (ARQ, USA). 2018. 1398P. [192680].

Interventions that improved function and/or pain for at least 1 month when used for: - Chronic neck pain: Exercise, low-level laser, Alexander Technique, **acupuncture**.

3.10. Aetna (insurance provider, USA) 2018 ⊕

Acupuncture. Aetna (insurance provider, USA). 2018. 73P. [188029].

Aetna considers needle acupuncture (manual or electroacupuncture) medically necessary for any of the following indications:**Chronic (minimum 12 weeks duration) neck pain**

3.11. Canadian Medical Association (CMA, Canada) 2017 ⊕

Lignes directrices canadiennes relatives à l'utilisation des opioïdes pour le traitement de la douleur chronique non cancéreuse, Canadian Medical Association. 2017:110P. [196698].

Recommandation 1: Lorsqu'on envisage le traitement d'un patient atteint de douleur chronique non cancéreuse nous recommandons l'optimisation de la pharmacothérapie non opioïde et du traitement non pharmacologique plutôt qu'un essai d'opioïdes (Recommandation Forte).
Le tableau 2 énumère certains des traitements spécifiques disponibles pour la prise en charge de la douleur chronique non cancéreuse ainsi que les données probantes appuyant chacun de ces traitements .
*Douleurs dorsales, ostéo-arthrite du genou, **douleurs cervicales**, fibromyalgie, céphalées graves ou migraines.* Qualité des données probantes : Faible ou très faible. Thérapies dont l'efficacité est appuyée par certaines données probantes : **acupuncture**, yoga, massothérapie, manipulation rachidienne, manipulation ostéopathique, tai-chi et approches de relaxation peuvent aider certains patients à gérer leur douleur.

3.12. Danish Health and Medicines Authority (DHMA, Danemark 2017) ⊕

Kjaer P, Kongsted A, Hartvigsen J, Isenberg-Jørgensen A, Schiøttz-Christensen B, Søborg B, Krog C, Møller CM. National clinical guidelines for non-surgical treatment of patients with recent onset neck pain or cervical radiculopathy. Eur Spine J. 2017;26(9):2242-2257. [178861].

For treatment, guidelines suggest acupuncture for neck pain but not for cervical radiculopathy.

3.13. Finnish Medical Association, Societas Medicinae Physicalis et Rehabilitationis Fenniae and the Finnish Association of General Practitioners

(Finland) 2017 ⊕

[Neck pain (adults)]. Duodecim of the Finnish Medical Association, Societas Medicinae Physicalis et Rehabilitationis Fenniae and the Finnish Association of General Practitioners. 2017;:18P. [219465]. URL

Acupuncture may temporarily relieve chronic neck pain [118, 119, 125, 131, 132] C, but there is no evidence of longer-term efficacy.

3.14. Institute for Clinical and Economic Review (ICER, USA) 2017 ∅

Tice JA, Kumar V, Otuonye I, et al. Cognitive and Mind-Body Therapies for Chronic Low Back and Neck Pain: Effectiveness and Value, Final Evidence Report. The Institute for Clinical and Economic Review (ICER). 2017;:171p. [219448]. URL

Chronic Neck Pain. Acupuncture. Net Health Benefit: Small. Level of Certainty: Low. ICER Evidence Rating: C+: P/I: Promising, but inconclusive.

3.15. American College of Occupational and Environmental Medicine (ACOEM, USA) 2016 ⊕

Cervical and spine disorders. American College of Occupational and Environmental Medicine. 2016. 711P. [181753].

Recommendation: **Acupuncture for Chronic Cervicothoracic Pain.** Acupuncture is recommended for select use in chronic cervicothoracic pain with or without radicular symptoms as an adjunct to facilitate more effective treatments. *Indications* - As an adjunct treatment option for chronic cervicothoracic pain as a limited course during which time there are clear objective and functional goals that are to be achieved. Considerations include time-limited use in chronic cervicothoracic pain patients without underlying serious pathology as an adjunct to a conditioning program that has both graded aerobic exercise and strengthening exercises. Acupuncture is recommended to assist in increasing functional activity levels more rapidly, and, if it is recommended, the primary attention should remain on the conditioning program. In those not involved in a conditioning program, or who are non-compliant with graded increases in activity levels, this intervention is not recommended. *Frequency/Duration* - Different frequencies and numbers of treatments used in quality studies ranged from weekly for 1 month to 20 appointments over 3 months. Usual program is 10 sessions over 3 to 4 weeks.(881) An initial trial of 5 to 6 appointments is recommended in combination with a conditioning program of aerobic and strengthening exercises. Future appointments should be tied to improvements in objective measures to justify an additional 6 sessions, for a total of 12 sessions. *Indications for Discontinuation* - Resolution, intolerance, or non-compliance including noncompliance with aerobic and strengthening exercises. *Harms* - Rare needling of deep tissue, such as artery, lung, etc. and resultant complications. Use of acupuncture may theoretically increase reliance on passive modality(ies) for chronic pain. *Benefits* - Modest reduction in pain. *Strength of Evidence* - Recommended, Evidence C. *Level of Confidence* – Low

3.16. Canadian Chiropractic Association (CCA, Canada) 2016 Ø

Bussières AE, Stewart G, Al-Zoubi F, Decina P, Descarreaux M, Hayden J, Hendrickson B, Hincapié C, Pagé I, Passmore S, Srbely J, Stupar M, Weisberg J, Ornelas J. The Treatment of Neck Pain-Associated Disorders and Whiplash-Associated Disorders: A Clinical Practice Guideline. J Manipulative Physiol Ther. 2016 Oct;39(8):523-564.e27. https://doi.org/10.1016/j.jmpt.2016.08.007

Treatment Interventions That Should NOT Be Offered for Neck Pain–Associated Disorders (NAD) grade I-II : electroacupuncture

3.17. Ontario Protocol for Traffic InjuryManagement Collaboration ((OPTIMa, Canada) 2016 Ø

Côté P, Wong JJ, Sutton D, et al. Management of neck pain and associated disorders: A clinical practice guideline from the Ontario Protocol for Traffic Injury Management (OPTIMa) Collaboration. Eur Spine J. 2016;25(7):2000–2022. doi:10.1007/s00586-016-4467-7. [001]. DOI

Recommendation 4 For NAD grades I–II ≤ 3 months duration,In view of evidence of no effectiveness, clinicians should not offer structured patient education alone, strain-counterstrain therapy, relaxation massage, cervical collar, **electroacupuncture**, electrotherapy, or clinic-based heat
Recommendation 5 For NAD grades I–II ≥3 months duration, In view of evidence of no effectiveness, clinicians should not offer strengthening exercises alone, strain-counterstrain therapy, relaxation massage, relaxation therapy for pain or disability, electrotherapy, shortwave diathermy, clinic-based heat, **electroacupuncture**, or botulinum toxin injections.

3.18. Colorado Division of Workers' Compensation (USA) 2014 ⊕

Colorado Division of Workers' Compensation. Cervical spine injury medical treatment guidelines. Denver (CO): Colorado Division of Workers' Compensation. 2014; :96P. [166325].

Acupuncture is recommended for chronic pain patients who are trying to increase function and/or decrease medication usage and have an expressed interest in this modality. It also may be beneficial for individuals experiencing acute or subacute neck pain who cannot tolerate nonsteroidal anti-inflammatory drugs (NSAIDs).

3.19. Italian Society of Physical and Rehabilitation Medicine (SIMFER, Italie) 2013 ⊕

Monticone M, Iovine R, De Sena G, Rovere G, Uliano D, Arioli G, Bonaiuti D, Brugnoni G, Ceravolo G, Cerri C, Dalla Toffola E, Fiore P, Foti C Et Al. The Italian Society of Physical and Rehabilitation Medicine (Simfer) recommendations for neck pain. G Ital Med Lav Ergon. 2013;35(1):36-50. [166807].

In the case of non-specific acute NP, use medical therapy as outlined above. Manipulation, massage, physical therapy, acupuncture or anesthetic blocks can also be recommended.
Laser therapy and acupuncture combined with other conservative treatments are recommended for pain relief.

3.20. American College of Occupational and Environmental Medicine (ACOEM, USA) 2011 ⊕

American College of Occupational and Environmental Medicine (ACOEM). Cervical and thoracic spine disorders. Elk Grove Village (IL): American College of Occupational and Environmental Medicine (ACOEM). 2011; 332P. [166312].

Acute Cervicothoracic Pain. Not recommended: Routine use of acupuncture (I)
Subacute Cervicothoracic Pain. Not recommended: Routine use of acupuncture (I)
Chronic Cervicothoracic Pain. Recommended: Acupuncture for select use in chronic cervicothoracic pain with or without radicular symptoms as an adjunct to facilitate more effective treatments (C)
Radicular Pain Syndromes. Not recommended: Routine use of acupuncture for acute radicular pain (I)

3.21. Accident Compensation Corporation (ACC, New-Zealand) 2011 ⊕

Hardaker N, Ayson M. Pragmatic Evidence Based Review. The efficacy of acupuncture in the management of musculoskeletal pain. Accident Compensation Corporation (ACC, New-Zealand). 2011. [182414].

The evidence for the effectiveness of acupuncture is most convincing for the treatment of chronic neck and shoulder pain. In terms of other injuries, the evidence is either inconclusive or insufficient. The state of the evidence on the effectiveness of acupuncture is not dissimilar to other physical therapies such as physiotherapy, chiropractic and osteopathy.
General
- There is insufficient evidence to make a recommendation for the use of acupuncture in the management of acute neck, back or shoulder pain
- There is emerging evidence that acupuncture may enhance/facilitate other conventional therapies (including physiotherapy & exercise-based therapies)
- There is a paucity of research for the optimal dosage of acupuncture treatment for treating shoulder, knee, neck and lower back pain
- Studies comparing effective conservative treatments (including simple analgesics, physical therapy, exercise, heat & cold therapy) for (sub) acute and chronic non-specific low back pain (LBP) have been largely inconclusive.
Neck
- There is good evidence that acupuncture is effective for short term pain relief in the treatment of chronic neck pain
- There is moderate evidence that real acupuncture is more effective than sham acupuncture for the treatment of chronic neck pain
- There is limited evidence that acupuncture has a long term effect on chronic neck pain

3.22. The Swedish Council on Technology Assessment in Health Care, Statens beredning för medicinsk utvärdering (SBU, Sweden) 2006 ⊕

Axelsson S, Boivie J, Eckerlund I, Gerdle B, Johansson E, Kristiansson M, List T, Lundberg B, Mannheimer C et al. Metoder för behandling av långvarig smärta [Methods of treating chronic pain]. SBU. Statens beredning för medicinsk utvärdering. The Swedish Council on Technology Assessment in Health Care; Stockholm. 2006;:508. [199760].

Neck pain. Acupuncture. Evidence Force 3 - Limited scientific evidence
Whiplash-related pain. Acupuncture. Evidence Force 3 - Limited scientific evidence

4. Review of Clinical Practice Guidelines

4.1. Ng 2022

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