# Table des matières

# whiplash injury

# Coup du lapin

## 1. Systematic Reviews and Meta-Analysis

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| ☆☆☆ | Evidence for effectiveness and a specific effect of acupuncture |
| ☆☆ | Evidence for effectiveness of acupuncture |
| ☆ | Limited evidence for effectiveness of acupuncture |
| Ø | No evidence or insufficient evidence |

### 1.1. Generic Acupuncture

#### 1.1.1. Lee 2024

Lee SH, Park SY, Heo I, Hwang EH, Shin BC, Hwang MS. Efficacy of acupuncture for whiplash injury: a systematic review and meta-analysis. BMJ Open. 2024 Jan 17;14(1):e077700. https://doi.org/10.1136/bmjopen-2023-077700

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| **Objectives** | This study aimed to establish clinical evidence for acupuncture by analysing data from trials that demonstrated the efficacy of acupuncture for whiplash-associated disorder (WAD) with the following research question: Is acupuncture treatment effective for symptom alleviation in patients with WAD compared with other usual care? |
| **Method** | Design: A systematic review and meta-analysis. Data sources: PubMed, Ovid Medline, Embase, The Cochrane Library, China National Knowledge Infrastructure, ScienceOn, KMBASE, Korean Studies Information Service System, Korea Med, Oriental Medicine Advanced Searching Integrated System and Research Information Sharing Service were searched from their inception to 1 October 2023. Eligibility criteria: We included randomised controlled trials (RCTs) using acupuncture on patients with WAD. The outcomes were the pain visual analogue scale (VAS) score or numerical rating scale score for neck pain, the range of motion (ROM) of the neck, the Neck Disability Index and safety. Data extraction and synthesis: Two independent researchers analysed and extracted data from the selected literatures. The risk of bias and the quality of evidence were assessed according to the Cochrane Handbook for Systematic Reviews of Interventions and the Grading of Recommendations Assessment, Development, and Evaluation method, respectively. |
| **Results** | A total of **525 patients** with WAD from **eight RCTs** were included in this study. The meta-analysis revealed that the outcomes showed significant differences in the pain VAS score (standard mean difference (SMD): -0.57 (-0.86 to -0.28), p<0.001) and ROM-extension (SMD: 0.47 (0.05 to 0.89), p=0.03). The risk of bias assessment revealed that four studies published after 2012 (50%, 4 out of 8 studies) showed low bias in most domains. The pain VAS score was graded as having moderate certainty. |
| **Conclusion** | Acupuncture may have clinical value in pain reduction and increasing the ROM for patients with WAD. High-quality RCTs must be conducted to confirm the efficacy of acupuncture in patients with WAD. |

### 1.1.2. Wong 2016 Ø

Wong JJ, Shearer HM, Mior S, Jacobs C, Côté P, Randhawa K, Yu H, Southerst D, Varatharajan S, Sutton D, van der Velde G, Carroll LJ, Ameis A, Ammendolia C. Are manual therapies, passive physical modalities, or acupuncture effective for the management of patients with whiplash-associated disorders or neck pain and associated disorders? Spine J.2016;16(12):1598-1630. [195650] .

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| **Purpose** | This review aimed to update the findings of the Neck Pain Task Force, which examined the effectiveness of manual therapies, passive physical modalities, and acupuncture for the management of WAD or NAD.STUDY DESIGN/SETTING: This is a systematic review and best evidence synthesis. SAMPLE: The sample includes randomized controlled trials, cohort studies, and case-control studies comparing manual therapies, passive physical modalities, or acupuncture with other interventions, placebo or sham, or no intervention. OUTCOME MEASURES: The outcome measures were self-rated or functional recovery, pain intensity, health-related quality of life, psychological outcomes, or adverse events. |
| **Methods** | We systematically searched five databases from 2000 to 2014. Random pairs of independent reviewers critically appraised eligible studies using the Scottish Intercollegiate Guidelines Network criteria. Studies with a low risk of bias were stratified by the intervention's stage of development (exploratory vs. Evaluation) and synthesized following best evidence synthesis principles. Funding was provided by the Ministry of Finance. |
| **Results** | We screened 8,551 citations, and 38 studies were relevant and 22 had a low risk of bias. Evidence from seven exploratory studies suggests that (1) for recent but not persistent NAD grades I-II, thoracic manipulation offers short-term benefits; (2) for persistent NAD grades I-II, technical parameters of cervical mobilization (eg, direction or site of manual contact) do not impact outcomes, whereas one session of cervical manipulation is similar to Kinesio Taping; and (3) for NAD grades I-II, strain-counterstrain treatment is no better than placebo. Evidence from 15 evaluation studies suggests that (1) for recent NAD grades I-II, cervical and thoracic manipulation provides no additional benefit to high-dose supervised exercises, and Swedish or clinical massage adds benefit to self-care advice; (2) for persistent NAD grades I-II, home-based cupping massage has similar outcomes to home-based muscle relaxation, low-level laser therapy (LLLT) does not offer benefits, **Western acupuncture provides similar outcomes to non-penetrating placebo electroacupuncture, and needle acupuncture provides similar outcomes to sham-penetrating acupuncture**; (3) for WAD grades I-II, needle electroacupuncture offers similar outcomes as simulated electroacupuncture; and (4) for recent NAD grades III, a semi-rigid cervical collar with rest and graded strengthening exercises lead to similar outcomes, and LLLT does not offer benefits. |
| **Conclusion** | Our review adds new evidence to the Neck Pain Task Force and suggests that mobilization, manipulation, and clinical massage are effective interventions for the management of neck pain. **It also suggests that electroacupuncture,** strain-counterstrain, relaxation massage, and some passive physical modalities (heat, cold, diathermy, hydrotherapy, and ultrasound) **are not effective** and should not be used to manage neck pain. |

### 1.1.3. Moon 2014 ★

Moon TW, Posadzki P, Choi TY, Park TY, Kim HJ, Lee MS, Ernst E. Acupuncture for treating whiplash associated disorder: a systematic review of randomised clinical trials. Evid Based Complement Alternat Med. 2014. [170692]

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| **Purpose** | The aim of this systematic reviewwas to determine the effectiveness of acupuncture for the treatment ofwhiplash associated disorder WAD). |

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| **Methods** | Twenty databases were searched fromtheir inceptions to Oct. 2013. Randomised clinical trials (RCTs) of acupuncture (AT), electroacupuncture (EA), or dry needling (DN) for the treatment of WAD were considered eligible. The risk of bias was assessed using the Cochrane tool. |
| **Results** | **Six RCTs** met the inclusion criteria. Most of the included RCTs have serious methodological flaws. **Four of the RCTs showed effectiveness of AT, AT in addition to usual care (UC), AT in addition to herbal medicine (HM) or EA was more effective than relaxation, sham EA, sham EA in addition to HM or UC for conditioned painmodulation (CPM) and alleviating pain**. In one RCT, DN in addition to physiotherapy (PT) had no effect compared to sham-DN in addition to PT for the reduction of pain. None of the RCTs showed that AT/EA/DN was more effective than various types of control groups in reducing disability/function. One RCT did not report between-group comparisons of any outcome measures. |
| **Conclusion** | **The evidence for the effectiveness of AT/EA/DN for the treatment of WAD is limited**. |

### 1.1.4. Verhagen 2007 Ø

Verhagen AP, Scholten-Peeters GG, van Wijngaarden S, de Bie RA, Bierma-Zeinstra SM. Conservative treatments for whiplash. Cochrane Database Syst Rev. 2007;CD003338:. [185657].

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| **Background** | Many treatments are available for whiplash patients but there is little scientific evidence for their accepted use. Patients with whiplash-associated disorders (WAD) can be classified by the severity of signs and symptoms from Grade 0 (no complaints or physical signs) to Grade 4 (fracture or dislocation). |
| **Objectives** | To assess the effectiveness of conservative treatment for patients with whiplash injuries rated as Grades 1 or 2 (neck and musculoskeletal complaints). |
| **Methods** | Search Strategy: we searched the Cochrane Central Register of Controlled Trials (The Cochrane Library, 2006, Issue 3), MEDLINE, CINAHL, PsycINFO, and PEDro to November 2006 and screened references of identified randomised trials and relevant systematic reviews. Selection Criteria: we selected randomised controlled trials published in English, French, German or Dutch, that included patients with a whiplash-injury, conservative interventions, outcomes of pain, global perceived effect or participation in daily activities. Data Collection And Analysis: two authors independently assessed the methodological quality using the Delphi criteria and extracted the data onto standardised data-extraction forms. We did not pool the results because of the heterogeneity of the population, intervention and outcomes and lack of data. A pre-planned stratified analysis was performed for three different comparisons. |
| **Main Results** | Twenty-three studies (2344 participants) were included in this update, including nine new studies. A broad variety of conservative interventions were evaluated. Two studies included patients with chronic symptoms (longer than three months), two included subacute (four to six weeks) symptoms, two had undefined duration of symptoms, and 17 studied patients with acute (less than three weeks) symptoms. Only eight studies (33.3%) satisfied one of our criteria of high quality, indicating overall, a poor methodological quality. Interventions were divided into passive (such as rest, immobilisation, ultrasound, etc) and active interventions (such as exercises, act as usual approach, etc.) and were compared with no treatment, a placebo or each other. Clinical and statistical heterogeneity and lack of data precluded pooling. Individual studies demonstrated effectiveness of one treatment over another, but the comparisons were varied and results inconsistent. Therefore, the evidence neither supports nor refutes the effectiveness of either passive or active treatments to relieve the symptoms of WAD, Grades 1 or 2. |

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| **Authors' Conclusions** | The current literature is of poor methodological quality and is insufficiently homogeneous to allow the pooling of results. Therefore, clearly effective treatments are not supported at this time for the treatment of acute, subacute or chronic symptoms of whiplash-associated disorders. |

# 2. Clinical Practice Guidelines

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

## 2.1. State Insurance Regulatory Authority (SIRA, Australia). 2014 Ø

Guidelines for the management of acute whiplash associated disorders for health professionals. State Insurance Regulatory Authority (SIRA, Australia). 2014. 61p. [180920].

Not routinely recommended treatments; Acupuncture is ineffective. Grade of recommendation; D