Table des matières

1. Systematic Reviews and Meta-Analysis 1
1.1. Generic Acupuncture 1
1.1.1. Liu 2025 1
1.1.2. Chen 2024 1
1.1.3. Lederer 2018 2
1.1.4. Wu 2016 ☆☆ 2
1.1.5. Fuentealba 2016 ☆ 3
1.1.6. Sun 2008 ☆☆☆ 3
1.2. Special Acupuncture Techniques 4
1.2.1. Intradermal acupuncture 4
1.2.1.1. Xu 2024 4
1.2.2. Auricular Acupuncture 5
1.2.2.1. Zhou 2025 5
1.2.2.2. Usichenko 2008 ☆ 5
1.2.3. Electroacupuncture 6
1.2.3.1. Silva 2026 6
1.2.3.2. Wang 2026 (gynecological laparoscopic surgery) 6
1.2.3.3. Ge 2023 (gynecologic surgery) 7
1.2.3.4. Yusi 2022 (laparoscopic surgery) 8
1.2.3.5. Wang 2022 (Transcutaneous electroacupuncture) 8
1.2.4. Comparison of Acupuncture Techniques 9
1.2.4.1. Zhu 2019 (Distal versus peri-incisional stimulation) 9
1.3. Specific Conditions 10
1.3.1. Postoperative sore throat after surgery under general anesthesia 10
1.3.1.1. Jau 2022 10
1.3.2. Cardiac surgery 10
1.3.2.1. Yıldız 2024 11
1.3.3. Pediatric Laparoscopic Appendectomy 11
1.3.3.1. Slouha 2023 11
1.3.4. Colorectal cancer resection 12
1.3.4.1. Qi 2023 12
1.3.5. Pain management in patients after transcatheter arterial chemoembolization 13
1.3.5.1. Wang 2026 13
1.3.6. Breast cancer surgery 13
1.3.6.1. Ma 2023 13
1.3.6.2. Tola 2021 14
1.3.7. Caesarean 14
1.3.7.1. Vo 2026 14
1.3.7.2. Liu 2025 15
1.3.7.3. Zimpel 2020 16
1.3.8. Abdominal Surgeries 18
1.3.8.1. Staff 2025 18
1.3.9. Anorectal Surgery 18
1.3.9.1. Huang 2024 18
1.3.9.2. Du 2022 19
1.3.9.3. Chen 2022 19
1.3.9.4. Ye 2022 20
1.3.9.5. Di 2020 21
1.3.9.6. Lian 2020 21

1.3.10. surgical herniorrhaphy 22
1.3.10.1. Shekouhi 2023 22
1.3.11. Post-thoracotomy pain 23
1.3.11.1. Park 2021 23
1.3.12. Orthopedic Surgery 23
1.3.12.1. Chen 2023 (Wrist-Ankle Acupuncture) 23
1.3.12.2. Xu 2022 (Wrist-Ankle Acupuncture) 24
1.3.12.3. Roberts 2012 Ø 24
1.3.13. Arthroscopic rotator cuff repair 25
1.3.13.1. Chen 2025 25
1.3.14. Vertebral Surgery 26
1.3.14.1. Fan 2025 (after percutaneous kyphoplasty or percutaneous vertebroplasty) 26
1.3.14.2. Zhang 2022 (lumbar disc herniation) 26
1.3.14.3. Cho 2014 ☆ 27
1.3.15. Hip surgery 27
1.3.15.1. Li 2022 27
1.3.16. Knee Surgery 28
1.3.16.1. Guo 2026 28
1.3.16.2. Kou 2026 29
1.3.16.3. Mi 2026 29
1.3.16.4. Wang 2026 (total knee arthroplasty) 30
1.3.16.5. Jin 2025 (total knee arthroplasty) 30
1.3.16.6. Li 2025 31
1.3.16.7. Tanghe 2025 32
1.3.16.8. Chu 2024 (function) 32
1.3.16.9. Liu 2024 (network meta-analysis) 33
1.3.16.10. Xin 2024 34
1.3.16.11. Chen 2021 (Total Knee Arthroplasty) 35
1.3.16.12. Chen 2021 (Electroacupuncture, Total Knee Arthroplasty) 35
1.3.16.13. Ko 2021 (Total Knee Replacement) 36
1.3.16.14. Lindsey 2021 (Knee Arthroplasty) 37
1.3.16.15. Yue 2018 (Total Knee Arthroplasty) 37
1.3.16.16. Tedesco 2017 (Total Knee Arthroplasty) ☆☆ 37
1.3.16.17. Chesham 2016 (Total Knee Arthroplasty) Ø 38
1.3.16.18. Barlow 2013 (Ambulatory Knee Surgery) ☆ 39
1.3.17. Tibial Fracture 39
1.3.17.1. Cho 2025 39
1.3.18. Tonsillectomy 40
1.3.18.1. Sargios 2026 40
1.3.18.2. Hosseini 2025 41
1.3.18.3. Cho 2016 (Tonsillectomy) ☆ 41
1.3.19. Neurosurgery 42
1.3.19.1. Tsaousi 2016 (Craniotomy) Ø 42
2. Clinical Practice Guidelines 43
2.1. American Physical Therapy Association (APTA, USA) 2026 ⊕ 43
2.2. PROSPECT working group 2026 ⊕ 43
2.3. Chinese Society of Anesthesiology 2025 ⊕ 44
2.4. Association of Anaesthetists and the British Pain Society (UK, 2024) ⊕ 44
2.5. College of Medicine and Health Science, Hawassa University (Ethiopia) 2023 ⊕ 44
2.6. European Society of Regional Anaesthesia and Pain Therapy 2023 ⊕ 45

2.7. American Academy of Otolaryngology–Head and Neck Surgery Foundation (AAO-HNSF, USA) 2021 ⊕ 45
2.8. Deutsche Gesellschaft für Anästhesiologie und Intensivmedizin e.V. (DGAI, Germany) 2021 ⊕ 45
2.9. Australian and New Zealand College of Anaesthetists (ANZA) 2020 ⊕ 46
2.10. European Society of Regional Anaesthesia and Pain Therapy 2020 ⊕ 46
2.11. Arbeitsgemeinschaft Gynäkologische Onkologie 2018 (AGO, Allemagne) Ø 46
2.12. American Pain Society, American Society of Regional Anesthesia and Pain Medicine (USA) 2016 Ø 46
2.13. Australian and New Zealand College of Anaesthetists (ANZCA, Autralia- New Zealand) 2015 ⊕ 46
2.14. Société Française d'Oto-Rhino-Laryngologie et de Chirurgie de la Face et du Cou (SFORL, France) 2014 ≈ 47
2.15. Austrian Society for Anesthesiology, Resuscitation and Intensive Care Medicine [Pédiatrie] (ÖGARI, Autriche) 2014 ⊕ 47
2.16. U.S. Navy Bureau of Medicine and Surgery (USA) 2013 ⊕ 47
2.17. Haute Autorité de Santé (HAS, France) [chirurgie buccale] 2005 Ø 47

Postoperative Pain

Douleur post-opératoire : évaluation de l'acupuncture

Articles connexes: - Pain

1. Systematic Reviews and Meta-Analysis

1.1. Generic Acupuncture

1.1.1. Liu 2025

Liu J, Li Y, Liu J, Zhang X. Efficacy of Acupuncture in Postoperative Pain-Relieving: A Systematic Review and Meta-Analysis. Pain Manag Nurs. 2025 Jan 14:S1524-9042(24)00327-8. https://doi.org/10.1016/j.pmn.2024.12.014

Objectives	This study aimed to assess the efficacy of acupuncture in relieving postoperative pain.
Methods	Design: Systematic review and meta-analysis. Data sources: The search strategy was designed according to the PICOS principle (population, intervention, comparison, outcome, and study). PubMed, Web of Science, Cochrane Library, and Embase were searched from the inception of databases to August 25th, 2022 to collect studies on acupuncture in the management of postoperative pain. Review methods: Two researchers independently screened the searched studies using the EndNote X9 software. Relevant data were extracted, and the risk of bias in included studies was assessed. RevMan 5.4 software was used for data analysis, and the Grading of Recommendations, Assessment, Development, and Evaluation was used to assess the quality of evidence.
Results	A total of **25 studies** were included. This meta-analysis showed statistically significant differences in the pain scores (SMD=-0.38, 95 %CI [-0.69, -0.07], p = .02) and the dosage of analgesics (SMD = -0.53, 95% CI [-0.99, -0.06], I2 = 90 %, p < .00001] between the acupuncture group and the control group.
Conclusion	Acupuncture is effective for alleviating postoperative pain and reducing the dosage of analgesics. More well-designed, and large-scale prospective studies are needed to further validate the efficacy of acupuncture in relieving postoperative pain.
Nursing practice implications	Acupuncture is an acceptable choice for relieving postoperative pain since it is convenient, effective, and acceptable. Nurses can provide tailored guidance for patients to enhance their recovery and satisfaction.

1.1.2. Chen 2024

Chen J, Liu L, Xie Y, Yu G, Zhang X. Acupoint Stimulation for Pain Control in Enhanced Recovery After Surgery: Systematic Review and Meta-Analysis. J Integr Complement Med. 2024 Jun;30(6):493-506. https://doi.org/10.1089/jicm.2023.0272

Introduction	Postoperative pain control is a challenge in enhanced recovery after surgery (ERAS). The current study reviewed the efficacy and safety of incorporating acupoint stimulation for postoperative pain control in ERAS.
Methods	Ten databases for relevant randomized controlled trials (RCTs) published in English or Mandarin Chinese were searched from 1997 to 2022. The quality of each article was appraised using the Cochrane Collaboration Risk of Bias Criteria and the modified Jadad Scale. The primary outcome was pain control, measured using the visual analog scale 24 h after surgery.
Results	**Eleven trials** met the eligibility criteria and were included in the study. Acupoint stimulation was found more effective than control treatments in terms of pain intensity (standardized mean difference [SMD] -0.94; 95% confidence interval [CI] -1.35 to -0.53), analgesic drug consumption (SMD -1.87; 95% CI -2.98 to -0.75), postoperative nausea (PON; SMD 0.31; 95% CI 0.13 to 0.73), postoperative vomiting (POV; SMD 0.57; 95% CI 0.11 to 2.92), and PON and POV (PONV; SMD 0.29; 95% CI 0.16 to 0.53). The Zusanli (ST36) and Neiguan (PC6) were the most-used acupoints in the included trials (8/11). The reported adverse reaction was only one case of bruising.
Discussion	Acupoint stimulation improved pain control in patients undergoing ERAS more than control treatments. The findings provide an evidence-based premise for incorporating acupoint stimulation into ERAS strategies. More rigorous RCTs are needed in the future.

1.1.3. Lederer 2018

Lederer AK, Schmucker C, Kousoulas L, Fichtner-Feigl S, Huber R. Naturopathic Treatment and Complementary Medicine in Surgical Practice. Dtsch Arztebl Int. 2018;115(49):815-821. [200295].

Background	Many patients in Germany use naturopathic treatments and complementary medicine. Surveys have shown that many also use them as a concomitant treatment to surgery.
Methods	Multiple databases were systematically searched for systematic reviews, controlled trials, and experimental studies concerning the use of naturopathic treatments and complementary medicine in the management of typical post-operative problems (PROSPERO CRD42018095330).
Results	Of the 387 publications identified by the search, 76 fulfilled the inclusion criteria. In patients with abnormal gastrointestinal activity, acupuncture can improve motility, ease the passing of flatus, and lead to earlier defecation. **Acupuncture and acupressure can reduce postoperative nausea and vomiting, as well as pain**. More-over, aromatherapy and music therapy seem to reduce pain, stress and anxiety and to improve sleep. Further studies are needed to determine whether phytotherapeutic treatments are effective for the improvement of gastrointestinal function or the reduction of stress. It also remains unclear whether surgical patients can benefit from the methods of mind body medicine.
Conclusion	Certain naturopathic treatments and complementary medical methods may be useful in postoperative care and deserve more intensive study. In the publications consulted for this review, no serious side effects were reported.

1.1.4. Wu 2016 ☆☆

Wu MS, Chen KH, Chen IF, Huang SK, Tzeng PC, Yeh ML, Lee FP, Lin JG, Chen C. The efficacy of acupuncture in post-operative pain management: a systematic review and meta-analysis. PLoS One. 2016 Mar 9;11(3):e0150367.[170723].

Objective	This systematic review and meta-analysis evaluated the effectiveness of acupuncture and acupuncture-related techniques in treating postoperative pain.
Methods	Data Source : MEDLINE, Cochrane Library, and EMBASE databases were searched until Sep 30, 2014. Study Eligibility Criteria : Randomized controlled trials of adult subjects (18 years) who had undergone surgery and who had received acupuncture, electroacupuncture, or acupoint electrical stimulation for managing acute post-operative pain were included.
Results	**We found that patients treated with acupuncture or related techniques had less pain and used less opioid analgesics on Day 1 after surgery compared with those treated with control (P < 0.001)**. Sensitivity analysis using the leave-one-out approach indicated the findings are reliable and are not dependent on any one study. In addition, no publication bias was detected. Subgroup analysis indicated that conventional acupuncture and transcutaneous electric acupoint stimulation (TEAS) were associated with less postoperative pain one day following surgery than control treatment, while electroacupuncture was similar to control (P = 0.116). TEAS was associated with significantly greater reduction in opioid analgesic use on Day 1 post surgery than control (P < 0.001); however conventional acupuncture and electroacupuncture showed no benefit in reducing opioid analgesic use compared with control (P 0.142).
Conclusions	Our findings indicate that certain modes of acupuncture improved postoperative pain on the first day after surgery and reduced opioid use. **Our findings support the use of acupuncture as adjuvant therapy in treating postoperative pain**.

1.1.5. Fuentealba 2016 ☆

Fuentealba Cargill F, Biagini Alarcón L. [Acupuncture for postoperative pain, a literature review]. Rev Med Chil. 2016;144(3):325-32. [186279].

Background	There is evidence that acupuncture may relieve pain. AIM: To assess the evidence about the effectiveness of acupuncture to relieve postoperative pain.
Material and methods	A systematic review of the literature selecting controlled clinical trials and systematic reviews comparing acupuncture with standard pain management. The value and quality of reports were evaluated using Jadad scale and STRICTA protocol. Pain intensity and analgesic consumption were the primary endpoints sought.
Results	**Five controlled trials and two systematic reviews were selected**. A meta-analysis was not feasible due to the heterogeneity of studies. In the postoperative period of tonsillectomy, acupuncture reduced pain by 36 and 22% at 20 minutes and two hours, respectively. In knee replacement, acupuncture reduced pain by 2% and analgesic consumption by 42%. In the postoperative period of dental interventions, acupuncture reduced pain by 24% at two hours.
Conclusions	**Acupuncture may be useful to manage postoperative pain, but more controlled studies are required**.

1.1.6. Sun 2008 ☆☆☆

Sun Y, Gan Tj, Dubose JW, Habib AS. Acupuncture and related techniques for postoperative pain: a systematic review of randomized controlled trials. Br J Anaesth. 2008; 101(2):151-60. [149110].

Objective	Postoperative pain management remains a significant challenge for all healthcare providers. The objective of this systematic review was to quantitatively evaluate the efficacy of acupuncture and related techniques as adjunct analgesics for acute postoperative pain management.
Methods	We searched the databases of Medline (1966-2007), CINAHL, The Cochrane Central Register of Controlled Trials (2006), and Scopus for randomized controlled trials (RCTs) using acupuncture for postoperative pain management. We extracted data about postoperative opioid consumption, postoperative pain intensity, and opioid-related side-effects. Combined data were analysed using a random effects model.
Results	**Fifteen RCTs comparing acupuncture with sham control** in the management of acute postoperative pain were included. Weighted mean difference for cumulative opioid analgesic consumption was -3.14 mg (95% confidence interval, CI: -5.15, -1.14), -8.33 mg (95% CI: -11.06, -5.61), and -9.14 mg (95% CI: -16.07, -2.22) at 8, 24, and 72 h, respectively. Postoperative pain intensity (visual analogue scale, 0-100 mm) was also significantly decreased in the acupuncture group at 8 and 72 h compared with the control group. The acupuncture treatment group was associated with a lower incidence of opioid-related side-effects such as nausea (relative risk, RR: 0.67; 95% CI: 0.53, 0.86), dizziness (RR: 0.65; 95% CI: 0.52, 0.81), sedation (RR: 0.78; 95% CI: 0.61, 0.99), pruritus (RR: 0.75; 95% CI: 0.59, 0.96), and urinary retention (RR: 0.29; 95% CI: 0.12, 0.74).
Conclusions	**Perioperative acupuncture may be a useful adjunct for acute postoperative pain management**.

1.2. Special Acupuncture Techniques

1.2.1. Intradermal acupuncture

1.2.1.1. Xu 2024

Xu N, Jiang K, Liu L, Yang X. Effect of intracutaneous pyonex therapy on postoperative pain management following perianal surgery: A systematic review and meta-analysis. PLoS One. 2024 Jan 19;19(1):e0296439. https://doi.org/10.1371/journal.pone.0296439

Backgound	Intracutaneous pyonex therapy (IPT), a novel acupuncture technique also known as intradermal thumbtack needle embedding therapy, has been reported to optimize postoperative pain management following perianal surgery.
Aim	This meta-analysis aimed to analyze the efficacy of IPT for postoperative pain management following perianal surgery.
Methods	The Cochrane Library, PubMed, EMBASE, Web of Science, CNKI, SinoMed, Wanfang, and VIP databases were systematically searched for randomized controlled trials (RCTs) on IPT as a treatment for postoperative pain management following perianal surgery from inception until June 15, 2022. The analyzed outcomes from the eleven RCTs included in this meta-analysis were as follows: postoperative visual analogue scale(VAS), analgesic duration, ineffective cases following treatment, and adverse events. Subgroup analyses were conducted according to different time points. Risk-of-bias assessment, publication bias analysis, sensitivity analysis, and trial sequential analysis were performed. Of the 895 patients, 450 and 445 were included in the IPT and control groups, respectively.

Results	The IPT group showed a better analgesic effect[standard mean difference (SMD) = -0.77, 95% CI: -1.00 to -0.53, P < 0.00001; P for heterogeneity = 0.009, I2 = 59%] and longer analgesic duration [SMD = 0.56, 95% CI: 0.31 to 0.82, P < 0.0001; P for heterogeneity = 0.6, I2 = 0%], fewer ineffective cases following treatment [risk ratio(RR) = 0.23; 95% CI: 0.13 to 0.39, P < 0.00001; P for heterogeneity = 0.76, I2 = 0%], and lower overall occurrence of postoperative complications [RR = 0.35; 95% CI: 0.17 to 0.70; P = 0.003; P for heterogeneity = 0.85, I2 = 0%] than the control group.
Conclusion	Thus, our findings indicated that IPT can provide better pain management following perianal surgery compared to controls. This novel approach complements a reasonable modality for postoperative multimodal analgesia and is worth promoting.

1.2.2. Auricular Acupuncture

1.2.2.1. Zhou 2025

Zhou Y, Bao Q, Yang C, Li S, Yin Z, Xiong J, Sun M, Yang J, Liu F, Liang F. Auricular Acupuncture for Perioperative Pain Management: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. J Pain Res. 2025 Jan 25;18:441-454. https://doi.org/10.2147/JPR.S488525

Purpose	We conducted a more comprehensive systematic review and meta-analysis to evaluate the effectiveness of auricular acupuncture (AA) in perioperative pain management.
Methods	Randomized controlled trials (RCTs) findings were retrieved from the Embase, Cochrane Central Register of Controlled Trials, PubMed, Web of Science, Chinese Biomedical Literature Database, Wanfang, VIP, and China National Knowledge Infrastructure databases from their inception to March 2024 using the search terms “pain”, “auriculotherapy”, and “randomized controlled trial”. The experimental group was treated with AA alone or in combination with analgesic drugs, whereas the control group was treated with sham auricular acupuncture, placebo, conventional treatment, or no treatment. The primary outcome was the perioperative pain score. The secondary outcomes were analgesic requirements, anxiety score, and adverse events (AEs). RevMan version 5.4 was used for data analysis.
Results	The analysis included a total of **21 RCTs with 1527 participants**. AA was superior to the control group for reducing pain intensity (mean difference [MD]= -0.44; 95% confidence interval [CI]: -0.72 to -0.17) and analgesic requirement (standardized mean difference [SMD]= -0.88, 95% CI: -1.29 to -0.46). Perioperative anxiety improvement did not differ significantly between the AA and control groups (MD= -5.45, 95% CI: -32.99 to 22.09). Subgroup analysis showed that AA exerted a significant analgesic effect as a preoperative intervention and in orthopedic surgery. The results of the sensitivity analysis demonstrated the stability of the results of the meta-analysis. AA-related AEs were mainly nausea, vomiting, and drowsiness. None of the patients in the experimental group dropped out of the trial due to AA-related AEs.
Conclusion	Current evidence suggests that AA may be a promising treatment option for improving perioperative pain with few AEs. However, owing to the low quality of the current evidence, large-sample, high-quality RCTs are needed to prove this conclusion.

1.2.2.2. Usichenko 2008 ☆

Usichenko TI, LehmanN CH, Ernst E. Auricular acupuncture for postoperative pain control: a systematic review of randomised clinical trials. Anaesthesia. 2008;63(12):1343-8. [153119].

Objective	The number of publications on the peri-operative use of auricular acupuncture has rapidly increased within the last decade. The aim was to evaluate clinical evidence on the efficacy of auricular acupuncture for postoperative pain control.
Methods	Electronic databases: Medline, MedPilot, DARE, Clinical Resource, Scopus and Biological Abstracts were searched from their inception to September 2007. All randomised clinical trials on the treatment of postoperative pain with auricular acupuncture were considered and their quality was evaluated using the Jadad scale. Pain intensity and analgesic requirements were defined as the primary outcome measures.
Results	Of 23 articles, **nine fulfilled the inclusion criteria**. Meta-analytic approach was not possible because of the heterogeneity of the primary studies. In eight of the trials, auricular acupuncture was superior to control conditions. Seven randomised clinical trials scored three or more points on the Jadad scale but none of them reached the maximum of 5 points.
Conclusions	**The evidence that auricular acupuncture reduces postoperative pain is promising but not compelling**.

1.2.3. Electroacupuncture

1.2.3.1. Silva 2026

Silva MAH, Ambram A, Longo L, Cortez E, Pujalte GGA. Electroacupuncture on Postoperative Pain Control: A Systematic Review. Altern Ther Health Med. 2026 Mar 5:AT11721.

Background	Managing postoperative pain (POP) effectively is key to improving surgical recovery. Common medications (e.g., opioids) often cause adverse effects, such as nausea, vomiting, sedation, and respiratory depression. Electroacupuncture (EA) may be an effective alternative or complementary strategy for POP relief.
Objective	To systematically examine studies evaluating EA as a neuromodulatory technique for managing POP.
Methods	We performed a systematic review of studies published within the last 5 years. We searched 7 databases: Scopus, Sage Journals, MEDLINE, Embase, Cochrane, Lilacs, and ScienceDirect. Of 1,789 identified articles, **18 met inclusion criteria**. Studies were grouped by whether they reported statistically significant effects, additional recovery-related outcomes, or no meaningful findings. Most studies provided Level 2 evidence. Setting: The reviewed research was conducted in various international clinical and academic institutions, although setting details were inconsistently reported. Participants: Participants included patients recovering from different types of surgery. Populations varied by age and surgical procedure and reporting on adverse events or dropouts was not uniform. Interventions: The intervention assessed was EA. Treatment parameters varied among the studies. Primary outcome measures: Pain intensity was the primary outcome, measured using standard scales (e.g., visual analog and numeric rating scales). Secondary outcomes included reductions in pain medication use and other recovery metrics.
Results	Most studies demonstrated a significant reduction in pain following EA treatment. Overall, EA appeared to enhance pain control and support recovery.
Conclusion	Evidence supports EA as a potential adjunct for POP management. High-quality studies are needed to confirm its effectiveness and refine its use.

1.2.3.2. Wang 2026 (gynecological laparoscopic surgery)

Wang K, Xiang S, Zuo H, Wu S. Effect of transcutaneous electrical acupoint stimulation on recovery

following gynecological laparoscopic surgery: a meta-analysis. BMC Surg. 2026;26(1):400. https://doi.org/10.1186/s12893-026-03730-5

Background	This meta-analysis aimed to evaluate the efficacy of transcutaneous electrical acupoint stimulation (TEAS) for postoperative recovery following gynecological laparoscopic surgery.
Methods	Seven electronic databases (CNKI, Wanfang, VIP, Embase, Web of Science, PubMed, and Cochrane Library) were searched up to September 24, 2025. Continuous outcomes were pooled as mean differences (MDs) and dichotomous outcomes as risk ratios (RRs), both with 95% confidence intervals. Risk of bias was assessed using the Cochrane Risk of Bias tool (RoB 1). Sensitivity analyses and publication bias assessments were performed. Meta-analysis was conducted using Stata 15.0 and Review Manager 5.4.
Results	Thirty randomized controlled trials involving 2,573 patients were included. TEAS significantly reduced postoperative pain at 6 hours [MD=-0.64, 95% CI: -1.17 to -0.12], 12 hours [MD=-0.85, 95% CI: -1.35 to -0.35], 24 hours [MD=-0.92, 95% CI: -1.29 to -0.55], and 48 hours [MD=-0.75, 95% CI: -1.30 to -0.20]. TEAS also reduced the incidence of postoperative nausea and vomiting (PONV) [RR=0.50, 95% CI: 0.44-0.57], shortened the time to first flatus [MD=-7.52, 95% CI: -10.17 to -4.87], first defecation [MD=-15.12, 95% CI: -21.97 to -8.26], and bowel sound recovery [MD=-4.80, 95% CI: -7.67 to -1.93]. In addition, TEAS significantly improved Quality of Recovery-15 (QoR-15) scores [MD=2.87, 95% CI: 1.15-4.60] and Mini-Mental State Examination (MMSE) scores [MD=1.80, 95% CI: 0.40-3.19].
Conclusions	Current evidence suggests that TEAS may improve postoperative recovery after gynecological laparoscopic surgery, particularly by reducing pain, postoperative nausea and vomiting, and accelerating gastrointestinal recovery. However, the certainty of the evidence is limited by methodological weaknesses, heterogeneity, and the overall quality of the included studies. Further high-quality randomized controlled trials are needed to confirm these findings.

1.2.3.3. Ge 2023 (gynecologic surgery)

Ge Y, Zheng J. The efficacy of transcutaneous electronic acupoint stimulation for improving postoperative recovery after gynecologic surgery: A systematic review and meta-analysis. Medicine (Baltimore). 2023 Sep 1;102(35):e34834. https://doi.org/10.1097/MD.0000000000034834. https://pubmed.ncbi.nlm.nih.gov/37657060; PMCID: PMC10476788.

Background	This systematic review and meta-analysis aimed to evaluate the efficacy of transcutaneous electronic acupoint stimulation (TEAS) for improving postoperative recovery after gynecologic surgery.
Methods	We performed a thorough search of 6 databases until March 2023, identifying 12 randomized controlled trials that met our predefined inclusion criteria and encompassed a total of 1510 patients. For continuous outcomes, we calculated the weighted mean difference (WMD), and for binomial outcomes, we used the risk ratio (RR). We evaluated heterogeneity among the included studies using Cochran I2 and Q statistics, utilizing a random-effects model when the I2 value exceeded 50%. To assess publication bias, we employed Egger test.
Results	Our analysis found that TEAS significantly reduced the risk of postoperative nausea (RR: 0.60, 95% CI: 0.43-0.83, P = .002) and postoperative vomiting (RR: 0.54, 95% CI: 0.43-0.67, P < .001), **visual analogue scale (WMD: -0.47, 95% CI: -0.76 to -0.17, P = .002)**, as well as shortened the time to first bowel movement (WMD: -18.43, 95% CI: -20.87 to -15.99, P < .001) and time to first flatus (WMD: -8.98, 95% CI: -12.46 to -5.51, P < .001) compared to the conventional group.

Conclusions	Our findings suggested that TEAS may improve postoperative recovery following gynecologic surgery. However, to confirm these results, larger randomized controlled trials encompassing a more diverse range of patient populations are urgently required.

1.2.3.4. Yusi 2022 (laparoscopic surgery)

Yusi H, Jiju Y, Xinyi LI, Huifeng H, Chong LI, Fan Z, Haiming L, Xianfei X, Ke HE, Guihua T. Effectiveness and safety of electroacupuncture for the treatment of pain after laparoscopic surgery: a systematic review. J Tradit Chin Med. 2022 Aug;42(4):505-512. https://doi.org/10.19852/j.cnki.jtcm.2022.04.002

Objective	To evaluate the clinical effectiveness and safety of electroacupuncture for treating pain after laparoscopic surgery.
Methods	The following databases were searched (since their establishment until November 16, 2021) for randomized controlled trials (RCTs) on electro-acupuncture for pain after laparoscopic surgery: PubMed, Embase, the Cochrane Library, Web of Science, China National Knowledge Infrastructure Database, Wanfang Database, China Science and Technology Journal Database, and Chinese Biomedical Literature Database. Data were screened independently and extracted by two reviewers. Two researchers independently extracted and cross-checked data and applied the modified Jadad scale and the Cochrane-recommended assessment method to evaluate the bias risk. The Meta-analysis was conducted using RevMan5.3 software.
Results	Twelve RCTs enrolling 788 patients were included. (a) For postoperative 24 h visual analogue scale, five trials were included on electroacupuncture + routine analgesia therapy vs routine analgesia therapy with significance in electroacupuncture conducted after surgery [mean difference (MD) = -0.63, 95% confidence interval (CI) (-0.90, -0.37)], as well as in electroacupuncture conducted before and after surgery [MD = -1.01, 95% CI (-1.62, -0.41)] and in surgery. However, two trials were included in electroacupuncture conducted 24 h before surgery with no significant difference [MD = -0.16, 95% CI (-0.44, 0.12)]. (b) The anesthetics intake of electroacupuncture + routine analgesia therapy vs. routine analgesia therapy was significant [MD = -121.71, 95% CI (-164.92, -78.49)]. © The adverse effects of electroacupuncture + routine analgesia therapy vs. routine analgesia therapy were significant both in the incidence of postoperative nausea and vomiting [risk rate (RR) = 0.49, 95% CI (0.39, 0.61)] and postoperative dizziness and headache [RR = 0.14, 95% CI (0.04, 0.47)].
Conclusion	The evidence showed that electro-acupuncture combined with routine analgesia therapy effectively treated pain after laparoscopic surgery. However, more rigorously designed RCTs are required due to the low quality of the included studies and the incomplete outcome evaluation system.

1.2.3.5. Wang 2022 (Transcutaneous electroacupuncture)

Wang D, Shi H, Yang Z, Liu W, Qi L, Dong C, Si G, Guo Q. Efficacy and Safety of Transcutaneous Electrical Acupoint Stimulation for Postoperative Pain: A Meta-Analysis of Randomized Controlled Trials. Pain Res Manag. 2022 Apr 14;2022:7570533. https://doi.org/10.1155/2022/7570533

Objective	This meta-analysis aims to evaluate the effectiveness and safety of transcutaneous electrical acupoint stimulation (TEAS) in treating post-operative pain.

Methods	This meta-analysis was registered in PROSPERO (CRD42021286753). We searched PubMed, Embase, and the Cochrane Library for relevant randomized controlled trials (RCTs) about TEAS in treating postoperative pain that were published before November 2021. The primary outcome was visual analogue scale (VAS) within 24 h after surgery. The secondary outcomes included postoperative opioid analgesic drug consumption and the occurrence of adverse reactions within the postoperative 24-72 h. Adverse reactions included dizziness, nausea, and vomiting. Continuous variables were analyzed using mean difference (MDs) or standardized mean difference (SMDs) and 95% CIs. Relative risk (RR) and 95% CI were used for dichotomous data. The data were pooled and analyzed by RevMan 5.4 and STATA15.0 software.
Results	**Seventeen trials with 1375 participants** were included. The current results suggested that application of TEAS showed obvious superiority in reducing VAS scores (SMD = -1.51, 95% CI = -2.20~-0.82, I2 = 96%). Subgroup analysis was performed according to open surgery and minimally invasive surgery. VAS scores were decreased after surgery at 24 h (SMD = -0.84, 95% CI = -1.07~-0.6, I2 = 96%; SMD = -0.88, 95% CI = -1.02~-0.75, I2 = 96%). The incidence of postoperative dizziness and nausea and vomiting was significantly lower in the TEAS group within postoperative 24-72 h (RR = 0.48, 95% CI = 0.34~0.68, I2 = 0%; RR = 0.66, 95% CI = 0.44~1.01, I2 = 69%; and RR = 0.49, 95% CI = 0.24~1.00, I2 = 51%). Postoperative opioid analgesics were also reduced in the TEAS group within 72 h after surgery (SMD = -2.10, 95% CI = -3.37~-0.82, I2 = 96%).
Conclusions	TEAS can reduce postoperative pain as well as the incidence of dizziness, nausea, and vomiting and the number of analgesics used after surgery. TEAS is a reasonable modality to incorporate into a multimodal management approach for postoperative pain.

1.2.4. Comparison of Acupuncture Techniques

1.2.4.1. Zhu 2019 (Distal versus peri-incisional stimulation)

Zhu J , Xu Q , Zou R , Wu W , Wang X , Wang Y , Ji F Zheng Z, Zheng M. Distal acupoint stimulation versus peri-incisional stimulation for postoperative pain in open abdominal surgery: a systematic review and implications for clinical practice. BMC Complement Altern Med. 2019;19(1):192. [200913].

Background	Acute postoperative pain remains a major clinical problem that affects patient recovery. Distal acupoint and peri-incisional stimulation are both used for relieving acute postoperative pain in hospital. Our objective was to assess and compare the effects of distal and peri-incisional stimulation on postoperative pain in open abdominal surgery.
Methods	MEDLINE, EMBASE, Cochrane Central Register of Controlled Trials and Chinese databases CNKI and Wanfangdata were searched to identify eligible randomized controlled trials. Intensity of postoperative pain, opioid consumption and related data were extracted and analyzed using a random effects model. Risk of bias was assessed. Subgroup analyses were conducted when data were enough.

Results	**Thirty-five trials** were included, in which 17 trials studied distal stimulation, another 17 trials studied peri-incisional stimulation and one studied the combination of the two approaches. No studies that directly compared the two approaches were identified. Subgroup analysis showed that both distal and peri-incisional stimulation significantly alleviated postoperative resting and movement pain from 4 h to 48 h after surgery by 6 to 25 mm on a 100 mm visual analogue scale. Peri-incisional stimulation showed a better reduction in postoperative opioid consumption. No studies compared the effects of the combined peri-incisional and distal stimulation with either mode alone. Overall the quality of evidence was moderate due to a lack of blinding in some studies, and unclear risk of allocation concealment.
Conclusion	Both distal and peri-incisional modes of stimulation were effective in reducing postoperative pain. Whether a combined peri-incisional stimulation and distal acupuncture has superior results requires further studies.

1.3. Specific Conditions

1.3.1. Postoperative sore throat after surgery under general anesthesia

1.3.1.1. Jau 2022

Jau PY, Chang SC. The effectiveness of acupuncture point stimulation for the prevention of postoperative sore throat: A meta-analysis. Medicine (Baltimore). 2022 Jul 15;101(28):e29653. https://doi.org/10.1097/MD.0000000000029653.

Background	Enhanced recovery pathways can be further improved for postoperative sore throat (POST) that occurs after surgery under general anesthesia. Medications have shown some effectiveness in preventing POST, but acupuncture or related techniques with better safety and lower cost can be used as an alternative or adjuvant therapy to treat perioperative symptoms by stimulating acupuncture point (acupoint). Therefore, we aimed to conduct a meta-analysis to assess whether acupoint stimulation helps patients prevent POST in adults undergoing tracheal intubation for general anesthesia.
Methods	Publications in PubMed, the Cochrane Central Register, ScienceDirect, and ClinicalTrial.gov were surveyed from January 2000 through August 2020. Studies that compared interventions between true acupoint stimulation and no or sham acupoint stimulation were included. The primary outcomes were the incidence and severity of POST at 24h.
Results	**Four randomized control trials** and 1 comparative study involving **1478 participants** were included. Compared with the no or sham acupoint stimulation, the true acupoint stimulation was associated with a reduced incidence (risk ratio, 0.32; 95% confidence interval (CI), 0.18-0.55; P < .001) and decreased severity (standardized mean difference, -2.79; 95% CI, -4.59 to - 0.99; P = .002) of POST. There were no significant adverse events related to acupoint stimulation. The finding for POST was assured by subgroup, sensitivity, and trial sequential analyses.
Conclusions	Acupoint stimulation may reduce the occurrence of POST. It can be considered as one of nonpharmacological methods to prevent POST in enhanced recovery pathways. Further rigorous studies are needed to determine the effectiveness of acupoint stimulation.

1.3.2. Cardiac surgery

1.3.2.1. Yıldız 2024

Yıldız T, Oyuktaş M, Avcu Ç. The effect of non-pharmacological methods on pain in patients undergoing open heart surgery: A systematic review and meta-analysis. Turk Gogus Kalp Damar Cerrahisi Derg. 2024 Jul 23;32(3):291-306. https://doi.org/10.5606/tgkdc.dergisi.2024.25603

Backgound	In this meta-analysis, we aimed to determine the effect of non-pharmacological methods on pain in patients undergoing open heart surgery.
Methods	Scientific articles published between January 2002 and April 2022 were scanned in ScienceDirect, Scopus, PubMed, Web of Science, Google Scholar, Mendeley, Wiley Online Library databases. The keywords “open heart surgery,” “cardiovascular surgery,” “non-pharmacological,” “complementary medicine,” and “pain” were used in Turkish and English language. As a result of the search, 7,952 studies were identified and analyzed. Research data were obtained from 49 scientific articles.
Results	The total sample size of the studies included in the analysis was 3,097. The total effect size was found to be 3.070, with a 95% confidence interval of 2.522 at the lower limit and 3.736 at the upper limit. Non-pharmacological pain methods in open heart surgery included positive environmental experience, distraction, massage therapy, hand massage, foot massage, **acupuncture therapy**, lavender essential oil inhalation, cold application, music therapy, breathing and relaxation exercises, neurolinguistic programming, guided visualization, imagery, therapeutic touch, osteopathic treatment, and transcutaneous electrical nerve stimulation.
Conclusion	The pain of patients who underwent open heart surgery with non-pharmacological methods combined with pharmacological methods was three times less than those without non-pharmacological methods. Based on these findings, non-pharmacological methods are recommended for use due to their ease of application, and low side effects.

1.3.3. Pediatric Laparoscopic Appendectomy

1.3.3.1. Slouha 2023

Slouha E, Krumbach B, Gregory JA, Biput SJ, Shay A, Gorantla VR. Pain Management Throughout Pediatric Laparoscopic Appendectomy: A Systematic Review. Cureus. 2023 Nov 28;15(11):e49581. https://doi.org/10.7759/cureus.49581

Background	Opioid-related fatalities are a leading cause of accidental death in the United States. Appendicitis is a common cause of abdominal pain in children and adolescents. The management of pain throughout the laparoscopic appendectomy (LA) in the pediatric population is a critical concern.
Methods	This study aimed to evaluate trends in analgesic use and patient satisfaction following LA, with a focus on reducing the reliance on opioids for pain management. From 2003 to 2023, 18258 articles were filtered for all types of analgesic use with LA. The publications were screened using Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, and 19 studies were included for analysis and review. The study included peer-reviewed experimental and observational studies involving individuals under 18 years.

Results	Pain management strategies varied across studies, involving a combination of analgesics, nerve blocks, and wound infiltrations. Analgesics such as acetaminophen, non-steroidal anti-inflammatory drugs (NSAIDs), and opioids were administered before and after surgery. Some studies implemented patient-controlled analgesia (PCA) pumps. Other studies explored non-pharmacological interventions like **magnetic acupuncture**. The results showed a reduction in the need for postoperative analgesics in patients treated with LA, particularly when using non-opioid medications and novel analgesic techniques. Pediatric patients who received gabapentin reported lower opioid use, shorter hospital stays, and high satisfaction rates. However, the reliance on opioids remained significant in some cases, particularly among patients with peritonitis who required more morphine. Pain management in pediatric patients is multifaceted, involving preoperative and postoperative analgesics, nerve blocks, and PCA pumps. Efforts to improve pain management following pediatric LA while reducing opioid reliance are essential in the context of the ongoing opioid epidemic.
Conclusions	The findings from this study highlight the potential benefits of non-opioid analgesics, nerve blocks, and alternative methods for managing postoperative pain in <18 appendectomy patients. Further research and standardization of pain management protocols are needed to ensure optimal patient outcomes and minimize the risk of opioid-related complications.

1.3.4. Colorectal cancer resection

1.3.4.1. Qi 2023

Qi L, Shi H, Zhang Y, Zhang X, Jia H, Tian H. The effect of acupuncture on recovery after colorectal cancer resection: A systematic review meta-analysis of randomized controlled trials. Medicine (Baltimore). 2023 Sep 1;102(35):e34678. https://doi.org/10.1097/MD.0000000000034678

Background	To evaluate the efficacy and safety of acupuncture by systematically reviewing the literature on colorectal cancer resection.
Methods	Seven electronic databases were searched from inception to February 28, 2023. Randomized controlled trials on acupuncture in patients after CRC resection were included. Two reviewers independently selected relevant trials, extracted data, and assessed the risk of bias. A random-effects meta-analysis model was used to obtain summary effect estimates. The data were pooled and analyzed using RevMan 5.3. The heterogeneity of selected studies was evaluated by evaluating the I-squared (I2) statistics.
Results	**Twenty-two studies with 1878 patients** were included. Results of the meta-analysis showed there was a low level evidence that acupuncture may improve early postoperative symptoms, such as time to first flatus (n = 876, MD -0.77h, 95% CI -1.22 to -0.33 h, I2 = 89%), time to first bowel movement (n = 671, MD -1.41h, 95% CI -2.20 to -0.63 h, I2 = 95%), time to first defecation (n = 556, MD -1.03h, 95% CI -1.88 to -0.18 h, I2 = 95%), and nausea/vomiting (n = 1488, RR 0.72, 95% CI 0.59-0.89, I2 = 49%) compared with usual care and sham acupuncture. However, there were no statistically significant differences in **postoperative pain** (n = 1188, MD-0.21, 95% CI -0.59 to 0.17, I2 = 74%). And there was no sufficient evidence of improving long-term functional outcomes. There was substantial heterogeneity across trials. The adverse events associated with acupuncture stimulation were minor in include studies.
Conclusion subsections	There is currently low-level evidence supporting the use of acupuncture on postoperative symptoms for patients after colorectal cancer resection. More investigations should be established based on the STRICTA statement strictly.

1.3.5. Pain management in patients after transcatheter arterial chemoembolization

1.3.5.1. Wang 2026

Wang WY, Quan X, He Z, Chen H, Li X, Yang G, An C. Acupoint stimulation for pain management in patients after transcatheter arterial chemoembolization: A systematic review and meta-analysis. World J Acupunct Moxibustion. 2026;36(1):29-43. https://doi.org/10.1016/j.wjam.2025.12.002

Objective	To systematically evaluate the clinical efficacy of acupoint stimulation for managing post-transcatheter arterial chemoembolization (TACE) pain and to provide a reliable evidence-based foundation for its clinical application in post-TACE pain management.
Methods	Clinical randomized controlled trials evaluating acupoint stimulation for post-TACE pain were retrieved from the Chinese National Knowledge Infrastructure, Wanfang Data Knowledge Service Platform, VIP Chinese Science and Technology Journal Database, China Biology Medicine disc, PubMed, Embase, Web of Science, the Cochrane Library, and ClinicalTrials.gov, covering all records from database inception to July 28, 2025. Articles were screened and data were extracted according to predefined inclusion and exclusion criteria. The methodological quality of the included studies was assessed using the Cochrane Risk of Bias Assessment Tool. Statistical analyses were conducted using Review Manager 5.4.1 and Stata 15.0. The certainty of evidence for each outcome was evaluated using the Grading of Recommendations Assessment, Development, and Evaluation approach. This study was registered on PROSPERO (CRD420251108966).
Results	A total of **17 studies involving 1525 patients** with liver cancer who experienced acute postoperative pain following TACE were included. Meta-analysis results demonstrated that acupoint stimulation significantly reduced pain intensity scores (Numerical rating scale: mean difference [MD] = −0.83, 95 % confidence interval [CI] [−0.96, −0.71], P < 0.00001; Visual analog scale: MD = −1.15, 95 % CI [−1.67, −0.63], P < 0.0001), increased the complete pain remission rate (Risk ratio [RR] = 1.74, 95 % CI [1.35, 2.23], P < 0.0001), shortened the onset time of analgesia (MD = −25.39 min, 95 % CI [−27.53, −23.26], P < 0.00001), prolonged the duration of analgesia (MD = 3.03 h, 95 % CI [0.40, 5.66], P = 0.02), and reduced the need for rescue analgesics (RR = 0.43, 95 % CI [0.28, 0.64], P < 0.0001). Furthermore, acupoint stimulation improved liver function indicators (Alanine aminotransferase: MD = −5.27 U/L, 95 % CI [−6.90, −3.63], P < 0.00001; Aspartate aminotransferase: MD = −6.76 U/L, 95 % CI [−8.39, −5.12], P < 0.00001), lowered plasma substance P levels (MD = −18.28 ng/L, 95 % CI [−30.97, −5.60], P = 0.005), and enhanced patient satisfaction (RR = 1.33, 95 % CI [1.05, 1.69], P = 0.02). Regarding safety, acupoint stimulation significantly reduced the risk of adverse events compared with blank controls (RR = 0.24, 95 % CI [0.10, 0.56], P = 0.001). However, no statistically significant differences in the risk of adverse events were observed when acupoint stimulation was combined with analgesics (RR = 0.91, 95 % CI [0.39, 2.13], P = 0.82) or compared directly to analgesics alone (RR = 0.79, 95 % CI [0.04, 14.95], P = 0.87).
Conclusion	Acupoint stimulation demonstrates favorable effects in alleviating pain following TACE. However, the relatively low methodological quality of the included studies limits the strength of the conclusions. Additional high-quality studies are needed to provide more robust evidence to guide clinical practice.

1.3.6. Breast cancer surgery

1.3.6.1. Ma 2023

Ma T, Xue G, Zhang J, Qin X. Effects of acupuncture on postoperative pain in patients undergoing breast cancer surgery: A systematic review and meta-analysis [letter]. Asian J Surg. 2023 Nov;46(11):5029-5031. https://doi.org/10.1016/j.asjsur.2023.06.060

Ten randomized controlled trials (RCTs) met the inclusion criteria for qualitative study and meta-analysis. A total of 944 subjects was included in the study, of which 573 subjects underwent acupuncture. Details of the basic characteristics of each study are presented in Table 1. Meta-analysis results showed that there were statistically significant differences in the pain scale scores (first postoperative pain assessment: SMD = -0.60, 95%CI -1.00 to -0.20, P = 0.003; postoperative pain assessment at 24 h: SMD = -0.21, 95%CI -0.37 to -0.06, P = 0.007. Fig. 1) between the acupuncture and control groups.

1.3.6.2. Tola 2021

Tola YO, Chow KM, Liang W. Effects of non-pharmacological interventions on preoperative anxiety and postoperative pain in patients undergoing breast cancer surgery: A systematic review. J Clin Nurs. 2021 Dec;30(23-24):3369-3384. https://doi.org/10.1111/jocn.15827

Background	Poorly managed preoperative anxiety and pain were reported to slow the postoperative recovery of breast cancer patients. Thus, proactive management using non-pharmacological interventions becomes essential for decreasing opioid or anxiolytics consumption, anxiety level, pain intensity, postoperative complications and improving patients' haemodynamics and satisfaction with care.
Purpose	To identify, analyse and synthesise the effects of non-pharmacological interventions on preoperative anxiety and acute postoperative pain in women undergoing breast cancer surgery.
Method	For this systematic review, 12 databases including Ovid Nursing, PsycInfo, British Nursing Index, CINAHL, Cochrane Library were searched to identify relevant studies. A total of 6,012 articles were identified from the search, six RCTs and one quasi-experimental study that met the inclusion criteria were included after eligibility screening. Narrative synthesis was used to analyse data extracted from the included articles. The review adhered to the PRISMA guideline.
Results	Twelve outcomes were measured in the included studies, including preoperative anxiety, and acute postoperative pain. Music, massage, aromatherapy and **acupuncture** were the interventions delivered. Music had a small-to-large effect size and aromatherapy had a small effect size on reducing preoperative anxiety. Also, music had a large effect size whilst **acupuncture had a medium effect size on minimising postoperative pain in women undergoing breast cancer surgery**.
Conclusion	Music, aromatherapy and acupuncture appeared to be effective for reducing preoperative anxiety and postoperative pain in women undergoing breast cancer surgery. However, the small number of studies available for each intervention prevents conclusive statements about which the most effective method.
Implication for clinical practice	A nursing care pathway that standardises the use of non-pharmacological interventions for the management of both preoperative anxiety and postoperative pain in breast cancer surgery patients should be developed.

1.3.7. Caesarean

1.3.7.1. Vo 2026

Vo BTN, Thai TBT, Loh EW, Tsai YL, Tam KW. Effects of acupoint stimulation for postoperative analgesia after Cesarean delivery: a systematic review and meta-analysis of randomized controlled trials. Can J Anaesth. 2026;73(6):556-571. https://doi.org/10.1007/s12630-026-03147-x

Purpose	Acupoint stimulation is used for pain management, but its effectiveness for postoperative pain after Cesarean delivery remains inconclusive. In this systematic review, we sought to assess its impact on acute pain after elective Cesarean delivery.
Methods	As part of our systematic review, we conducted searches in PubMed®, Embase®, Web of Science™, Scopus, the Cochrane database, China National Knowledge Infrastructure, and Airiti Library up to January 2025. We included randomized controlled trials (RCTs) evaluating acupoint stimulation to relieve postoperative pain after Cesarean delivery. Effect sizes were estimated using a random-effects model as mean differences (MDs) with 95% confidence intervals (CIs). Risk of bias was assessed using the RoB 2.0 tool. Certainty of the evidence was assessed using the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) approach.
Results	After screening 2,911 studies, **18 RCTs (2,183 parturients)** were included. Compared with sham stimulation, acupoint stimulation lowered pain scores within 6 hr (MD, -0.24; 95% CI, -0.44 to -0.03), 6-12 hr (MD, -0.65; 95% CI, -1.09 to -0.20), 12-24 hr (MD, -0.58; 95% CI, -0.93 to -0.23), and 24-48 hr (MD, -0.44; 95% CI, -0.88 to -0.01). Compared with control, acupoint stimulation lowered pain scores within 6 hr (MD, -0.33; 95% CI, -0.52 to -0.15), 6-12 hr (MD, -0.30; 95% CI, -0.43 to -0.17), 12-24 hr (MD, -0.53; 95% CI, -0.79 to -0.28), and 24-48 hr (MD, -0.24; 95% CI, -0.44 to -0.03). Certainty of evidence was rated moderate to high.
Conclusions	Acupoint stimulation appears to provide small magnitudes of pain reduction after Cesarean delivery compared with both standard care and sham interventions. Acupoint stimulation may be an effective supplementary treatment for postoperative pain after Cesarean delivery. Further research is needed to define optimal timing, duration, and techniques.

1.3.7.2. Liu 2025

Liu H, Xing K, Liao C, Wang J, Tang C, Huang S. Acupuncture for post-cesarean pain and gastrointestinal function recovery: a meta-analysis and systematic review. Front Med (Lausanne). 2025 Jun 18;12:1583898. https://doi.org/10.3389/fmed.2025.1583898

Objective	Postoperative pain and gastrointestinal dysfunction are common complications after cesarean section, significantly affecting maternal recovery and quality of life. Acupuncture has recently shown promise in alleviating postoperative pain and promoting the recovery of gastrointestinal function. This study aimed to assess the effectiveness of acupuncture in relieving postoperative pain and improving gastrointestinal function after cesarean section via a meta-analysis.
Methods	A comprehensive search for randomized controlled trials (RCTs) examining acupuncture for post-cesarean pain and gastrointestinal function was conducted across multiple databases, covering literature up to 1 February 2025. Data analysis was conducted using Stata 15.

Result	A total of **26 studies involving 2,641 patients** were included. This meta-analysis evaluated the effects of acupuncture on postoperative pain, bowel sound recovery, and time to first flatus. The results demonstrated that acupuncture significantly reduced VAS at 6 h (SMD = -0.36, 95%CI [-0.65, -0.07]), 12 h (SMD = -1.23, 95%CI [-1.81, -0.64]), 24 h (SMD = -1.06, 95%CI [-1.56, -0.56]), and 48 h (SMD = -0.96, 95%CI [-1.76, -0.17]). Additionally, acupuncture significantly shortened bowel sound recovery time (SMD = -2.26, 95% CI [-2.97, -1.54]) and anal exhaust time (SMD = -2.41, 95% CI [-3.21, -1.61]). Subgroup analysis revealed that conventional acupuncture was effective across the majority of outcomes, while electroacupuncture showed comparatively weaker effects at certain time points. However, the presence of substantial heterogeneity (I2 values above 90%), along with variations in study quality and acupuncture protocols, could limit the accuracy and generalizability of the findings.
Conclusion	This meta-analysis suggests that acupuncture may effectively relieve pain and improve gastrointestinal function after cesarean section. The study's results showed significant improvements in pain scores and gastrointestinal recovery indicators, including bowel sound recovery time and anal exhaust time. However, the results should be interpreted with caution due to the high degree of heterogeneity and variability in study quality and acupuncture protocols. Further high-quality, large-scale RCTs are needed to validate these findings.

1.3.7.3. Zimpel 2020

Zimpel SA, Torloni MR, Porfírio GJ, Flumignan RL, da Silva EM. Complementary and alternative therapies for post-caesarean pain. Cochrane Database Syst Rev. 2020. [212702]. doi

Background	Pain after caesarean sections (CS) can affect the well-being of the mother and her ability with her newborn. Conventional pain-relieving strategies are often underused because of concerns about the adverse maternal and neonatal effects. Complementary alternative therapies (CAM) may offer an alternative for post-CS pain.
Objectives	To assess the effects of CAM for post-caesarean pain.
Methods	Search methods: We searched Cochrane Pregnancy and Childbirth's Trials Register, LILACS, PEDro, CAMbase, ClinicalTrials.gov and the WHO International Clinical Trials Registry Platform (ICTRP) (6 September 2019), and checked the reference lists of retrieved articles. Selection criteria: Randomised controlled trials (RCTs), including quasi-RCTs and cluster-RCTs, comparing CAM, alone or associated with other forms of pain relief, versus other treatments or placebo or no treatment, for the treatment of post-CS pain. Data collection and analysis: Two review authors independently performed study selection, extracted data, assessed risk of bias and assessed the certainty of evidence using GRADE.

Main results	We included 37 studies (3076 women) which investigated eight different CAM therapies for post-CS pain relief. There is substantial heterogeneity among the trials. We downgraded the certainty of evidence due to small numbers of women participating in the trials and to risk of bias related to lack of blinding and inadequate reporting of randomisation processes. None of the trials reported pain at six weeks after discharge. Primary outcomes were pain and adverse effects, reported per intervention below. Secondary outcomes included vital signs, rescue analgesic requirement at six weeks after discharge; all of which were poorly reported, not reported, or we are uncertain as to the effect Acupuncture or acupressure We are very uncertain if acupuncture or acupressure (versus no treatment) or acupuncture or acupressure plus analgesia (versus placebo plus analgesia) has any effect on pain because the quality of evidence is very low. **Acupuncture or acupressure plus analgesia (versus analgesia) may reduce pain at 12 hours (standardised mean difference (SMD) -0.28, 95% confidence interval (CI) -0.64 to 0.07; 130 women; 2 studies; low-certainty evidence) and 24 hours (SMD -0.63, 95% CI -0.99 to -0.26; 2 studies; 130 women; low-certainty evidence). It is uncertain whether acupuncture or acupressure (versus no treatment) or acupuncture or acupressure plus analgesia (versus analgesia) has any effect on the risk of adverse effects because the quality of evidence is very low**. Aromatherapy Aromatherapy plus analgesia may reduce pain when compared with placebo plus analgesia at 12 hours (mean difference (MD) -2.63 visual analogue scale (VAS), 95% CI -3.48 to -1.77; 3 studies; 360 women; low-certainty evidence) and 24 hours (MD -3.38 VAS, 95% CI -3.85 to -2.91; 1 study; 200 women; low-certainty evidence). We are uncertain if aromatherapy plus analgesia has any effect on adverse effects (anxiety) compared with placebo plus analgesia. Electromagnetic therapy Electromagnetic therapy may reduce pain compared with placebo plus analgesia at 12 hours (MD -8.00, 95% CI -11.65 to -4.35; 1 study; 72 women; low-certainty evidence) and 24 hours (MD -13.00 VAS, 95% CI -17.13 to -8.87; 1 study; 72 women; low-certainty evidence). Massage We identified six studies (651 women), five of which were quasi-RCTs, comparing massage (foot and hand) plus analgesia versus analgesia. All the evidence relating to pain, adverse effects (anxiety), vital signs and rescue analgesic requirement was very low-certainty. Music Music plus analgesia may reduce pain when compared with placebo plus analgesia at one hour (SMD -0.84, 95% CI -1.23 to -0.46; participants = 115; studies = 2; I2 = 0%; low-certainty evidence), 24 hours (MD -1.79, 95% CI -2.67 to -0.91; 1 study; 38 women; low-certainty evidence), and also when compared with analgesia at one hour (MD -2.11, 95% CI -3.11 to -1.10; 1 study; 38 women; low-certainty evidence) and at 24 hours (MD -2.69, 95% CI -3.67 to -1.70; 1 study; 38 women; low-certainty evidence). It is uncertain whether music plus analgesia has any effect on adverse effects (anxiety), when compared with placebo plus analgesia because the quality of evidence is very low. Reiki We are uncertain if Reiki plus analgesia compared with analgesia alone has any effect on pain, adverse effects, vital signs or rescue analgesic requirement because the quality of evidence is very low (one study, 90 women). Relaxation Relaxation may reduce pain compared with standard care at 24 hours (MD -0.53 VAS, 95% CI -1.05 to -0.01; 1 study; 60 women; low-certainty evidence). Transcutaneous electrical nerve stimulation TENS (versus no treatment) may reduce pain at one hour (MD -2.26, 95% CI -3.35 to -1.17; 1 study; 40 women; low-certainty evidence). TENS plus analgesia (versus placebo plus analgesia) may reduce pain compared with placebo plus analgesia at one hour (SMD -1.10 VAS, 95% CI -1.37 to -0.82; 3 studies; 238 women; low-certainty evidence) and at 24 hours (MD -0.70 VAS, 95% CI -0.87 to -0.53; 108 women; 1 study; low-certainty evidence). TENS plus analgesia (versus placebo plus analgesia) may reduce heart rate (MD -7.00 bpm, 95% CI -7.63 to -6.37; 108 women; 1 study; low-certainty evidence) and respiratory rate (MD -1.10 brpm, 95% CI -1.26 to -0.94; 108 women; 1 study; low-certainty evidence). We are uncertain if TENS plus analgesia (versus analgesia) has any effect on pain at six hours or 24 hours, or vital signs because the quality of evidence is very low (two studies, 92 women).

Authors' conclusions	Some CAM therapies may help reduce post-CS pain for up to 24 hours. The evidence on adverse events is too uncertain to make any judgements on safety and we have no evidence about the longer-term effects on pain. Since pain control is the most relevant outcome for post-CS women and their clinicians, it is important that future studies of CAM for post-CS pain measure pain as a primary outcome, preferably as the proportion of participants with at least moderate (30%) or substantial (50%) pain relief. Measuring pain as a dichotomous variable would improve the certainty of evidence and it is easy to understand for non-specialists. Future trials also need to be large enough to detect effects on clinical outcomes; measure other important outcomes as listed lin this review, and use validated scales.

1.3.8. Abdominal Surgeries

1.3.8.1. Staff 2025

Staff S, Yang C, Greten J, Braun V, Reissfelder C, Herrle F, Ghanad E. Manual Acupuncture for Postoperative Pain and Recovery after Abdominal Surgeries: A Systematic Review. J Integr Complement Med. 2025 Feb;31(2):112-121. https://doi.org/10.1089/jicm.2023.0750

Introduction	Acupuncture's role in surgical and postoperative contexts is gaining traction. However, the evidence remains patchy and is often of low-grade quality, particularly in the context of postintestinal surgery.
Purpose	To assess acupuncture's efficacy in pain relief and functional recovery after abdominal surgery.
Methods	We searched PubMed, Cochrane, Web of Science, and Google Scholar for randomized trials using manual acupuncture as the main intervention. Outcomes included postoperative pain, analgesic use, nausea, gastrointestinal (GI) regeneration, and length of hospital stay. For risk of bias assessment Cochrane risk of bias tool 2 was employed. Registered with PROSPERO: CRD42022311718.
Results	Of 700 records till May 2023, **8 trials (551 patients**; 16-200/trial) were included. Due to factors such as varying experimental settings and unpublished protocols, there was high risk of bias and heterogeneity, making meta-analysis unfeasible. Safety data were documented sufficiently by two trials. However, acupuncture showed marked benefits in pain relief, less analgesic use, fewer nausea cases, and improved GI recovery. One study reported reduced hospitalization time.
Conclusion	Due to the varied methodologies and potential biases in existing studies, the definitive effectiveness of acupuncture remains unclear. To confirm the potential benefits of acupuncture as suggested by the reviewed studies, it's imperative to have more standardized study protocols, well-defined interventions and controls, and objective measures of efficacy.

1.3.9. Anorectal Surgery

1.3.9.1. Huang 2024

Huang Q, Wang Y, Wang X, Xiang Z, Wang H, Wang A, Liu W, Gu Y. Efficacy and Safety of Snap Needles in the Treatment of Postoperative Hemorrhoidal Pain: A Systematic Review and Meta-Analysis. J Pain Res. 2024 Jun 7;17:2015-2028. https://doi.org/10.2147/JPR.S464176

Purpose	The aim of this study is to evaluate the efficacy and safety of Snap Needles (SN) in the management of Postoperative Hemorrhoidal Pain (POHP).
Patients and methods	A systematic search was conducted in various databases, including EMBASE, Web of Science, PubMed, WanFang database, China National Knowledge Infrastructure (CNKI), China Biomedical Literature Database (CBM), and China Science and Technology Journal Database (VIP), spanning from their inception to August 2023, to identify relevant randomized controlled trials (RCTs) on SN for POHP. The primary outcome measure was the Visual Analog Scale (VAS), while secondary outcomes encompassed the Total Effective Rate (TER), Wound Healing Time (WHT), Pain Relief Time (PRT), Pain Disappearance Time (PDT), and Adverse Events (AEs). The Cochrane Risk of Bias Tool was employed to assess the quality of individual studies. A meta-analysis was conducted using RevMan 5.4.1 software.
Results	The meta-analysis included **11 RCTs involving 1188 POHP patients**, with an overall assessment of study quality ranging from very low to moderate. The findings revealed that the SN group exhibited significant improvements in treatment outcomes when compared to the control group (CG). These improvements were reflected in reduced VAS scores (mean difference [MD] = -1.10, 95% confidence interval [CI]: -1.31, -0.89, $P < 0.05$), shorter WHT (MD = -2.55, 95% CI: -3.02, -2.09, $P < 0.05$), quicker PRT (MD = -7.99, 95% CI: -8.48, -7.49, $P < 0.05$), fewer AEs (risk ratio [RR] = 0.38, 95% CI: 0.22, 0.67, $P < 0.05$), improved TER (RR = 1.18, 95% CI: 1.09, 1.27, $P < 0.05$), and faster PDT (MD = 19.24, 95% CI: 14.17, 24.31, $P < 0.05$).
Conclusion	The use of SN appears to yield favorable outcomes in the treatment of POHP, and is potentially an alternative therapy to western drug therapy.

1.3.9.2. Du 2022

Du B, Xu Z, Zhong X. Electroacupuncture for postoperative pain in mixed hemorrhoids: A meta-analysis. Medicine (Baltimore). 2022 Dec 16;101(50):e32247. https://doi.org/10.1097/MD.0000000000032247

Background	To investigate the efficacy of electroacupuncture for postoperative pain in mixed hemorrhoids.
Methods	Randomized controlled trials were searched in PubMed and Cochrane Library. The risk of bias assessment tool was used to assess methodological quality. Stata 14.0 software was used for meta-analysis. Weighted mean differences were calculated if all outcome variables were reported the same way, while standardized mean differences (SMD) were calculated if they were different.
Results	From 27 identified studies, **5 Chinese studies (465 patients)** were included in this meta-analysis. The electroacupuncture group had significantly lower postoperative pain scores compared with the control group at 6 hours postoperatively (SMD = -0.89, 95% CI: -1.091 to -0.692; $P < .001$), at 12 hours postoperatively (SMD = -1.089, 95% CI: -1.336 to -0.843; $P < .001$), at 24 hours postoperatively (SMD = -0.548, 95% CI: -0.721 to -0.374; $P = .547$), and 72 hours postoperatively (SMD = -1.089, 95% CI: -1.336 to -0.843; $P < .001$).
Conclusion	Electroacupuncture can improve pain after surgery for mixed hemorrhoids. It is an effective method to improve the pain after hemorrhoidectomy, which deserves further research and promotion.

1.3.9.3. Chen 2022

Chen H, Zhang W, Sun Y, Jiao R, Liu Z. The Role of Acupuncture in Relieving Post-Hemorrhoidectomy Pain: A Systematic Review of Randomized Controlled Trials. Front Surg. 2022 Mar 28;9:815618. doi:

10.3389/fsurg.2022.815618. PMID: 35419404; PMCID: PMC8995644.

Background	Post-hemorrhoidectomy pain (PHP) remains one of the complications of hemorrhoidectomy and can delay patient's recovery. Current clinical guideline on PHP remains skeptical on the effectiveness of acupuncture, which has been applied for PHP in practice with inconsistent evidence.
Objectives	This systematic review aimed to evaluate the effectiveness of acupuncture on PHP by reviewing existing evidence.
Methods	Nine databases such as PubMed and Embase were searched for randomized controlled trials (RCTs) from inception to 30th September 2021. The outcome measures on pain level after hemorrhoidectomy, dose of rescue analgesic drug used, quality of life, adverse events, etc., were extracted and analyzed in a narrative approach.
Results	**Four RCTs involving 275 patients** were included in the analysis. One study showed that the visual analog scale (VAS) score was significantly lower in the electro-acupuncture (EA) group compared to that in the sham acupuncture (SA) group at 6, 24 h after surgery and during the first defecation ($p < 0.05$). Similar trends were found in the verbal rating scale (VRS) and Wong-Baker Faces scale (WBS) score but at different time points. Another study also found EA was effective on relieving pain during defecation up to 7 days after surgery when compared with local anesthetics ($p < 0.05$). However, two studies evaluating manual acupuncture (MA) compared with active medications for PHP showed inconsistent results on effectiveness. Variability was found in the quality of included studies.
Conclusions	Although benefit of acupuncture on PHP, especially EA on defecation after surgery, was observed at some time points, evidence on effectiveness of acupuncture on PHP was not conclusive.

1.3.9.4. Ye 2022

Ye S, Zhou J, Guo X, Jiang X. Three Acupuncture Methods for Postoperative Pain in Mixed Hemorrhoids: A Systematic Review and Network Meta-Analysis. Comput Math Methods Med. 2022 Sep 26;2022:5627550. https://doi.org/10.1155/2022/5627550.

Background	Mixed hemorrhoids are a common anorectal disorder, surgery is the most effective means of eradicating hemorrhoids, and pain is the most common postoperative complication of mixed hemorrhoids.
Objective	To compare the clinical efficacy of auricular plaster, acupoint application, and acupoint catgut embedding for treating postoperative pain in mixed hemorrhoids.
Method	PubMed, Embase, The Cochrane Library, Web of Science, CNKI, Wanfang, VIP, and CBM databases were searched for randomized controlled trials (RCTs) of three acupuncture-related therapies for postoperative pain in mixed hemorrhoids from the time of database creation to October 2021. After screening the literature, extracting information, and evaluating the risk of bias of included studies, statistical analysis was performed using RevMan 5.3 and Stata 15.0.

Result	**Forty-seven RCTs** with a total of **5121 patients** were included. Network meta-analysis (NMA) showed that auricular plaster (OR = 5.90, 95% CI = (2.02, 17.21)) and acupoint catgut embedding therapy (OR = 5.55, 95% CI = (1.01, 30.40)) were more effective than analgesics in the treatment of postoperative pain in mixed hemorrhoids. The cumulative ranking probability (SUCRA) showed that acupoint application (73.6%) had the best overall efficacy and the rest were auricular plaster (68.7%), acupoint catgut embedding therapy (64.6%), auricular plaster combined with acupoint application (63.4%), and pain medication (8.9%) in that order. Secondly, auricular plaster (OR = -0.93, 95% CI = (-1.66, -0.20)), acupoint catgut embedding (OR = -0.8, 95% CI = (-1.50, -0.10)), and acupoint application (OR = -1.4, 95% CI = (-2.50, -0.31)) all led to a significant decrease in pain scores and were all more effective than analgesics. As ranked by SUCRA, the results showed that the efficacy of acupoint application (73.5%) was optimal and the rest were auricular plaster (56.1%), acupoint catgut embedding (50.2%), and pain medication (15.3%) in that order. In terms of pain degree, acupoint application (OR = 3.83, 95% CI = (1.25, 11.74)) was significantly better than pain medication.
Conclusion	Acupoint application can improve the overall efficiency, reduce pain scores, and relieve the degree of postoperative pain in mixed hemorrhoids.

1.3.9.5. Di 2020

Di Qin, An-Mei Zhang, Min Chen, Tai-Chun Tang, … Hui Zheng. Acupuncture and related techniques for postoperative pain after hemorrhoidectomy: A systematic review and network meta-analysis. European Journal of Integrative Medicine. 2020;37. [212113]. doi

Introduction	Several acupuncture related techniques are used in clinical practice for postoperative pain after hemorrhoidectomy. As the comparative effectiveness between these treatments was unclear, a systematic review and network meta-analysis was conducted.
Methods	MEDLINE, Embase, the Cochrane Library Chinese biomedical database (CBM), and China journal full-text database (CNKI) were searched from January 1st, 1996 to February 1st, 2020, for randomized controlled trials (RCTs) assessing the effectiveness of acupuncture and related techniques. The Cochrane risk of bias tool and GRADE were used to assess the quality of the included RCTs. The effect sizes were pooled by using random-effects model and data presented as standardized mean difference (SMD) or relative ratio (RR).
Results	We included 107 RCTs (n = 10,972) for network meta-analysis assessing the relative effectiveness of 40 treatments and 48 RCTs (n = 5226) to analyse responder rate. Auricular acupressure plus acupuncture (RR, 1.44 [95 %CI, 1.15–1.81], P-score = 0.923), acupuncture (RR, 1.23, [95 %CI, 1.04–1.45], P-score = 0.723), other acupuncture techniques (RR, 1.22, [95 %CI, 1.04–1.44], P-score = 0.727) and auricular acupressure (RR, 1.22, [95 %CI, 1.09–1.36], P-score = 0.720) were significantly superior over usual care, and auricular acupressure plus acupuncture ranked the most effective. 72 RCTs (n = 7220) were analysed for pain intensity. Providing eight treatments was significantly superior compared with usual care. Auricular acupressure plus acupuncture (SMD, -1.82 [95 %CI, -3.33 to -0.31], P-score = 0.799) ranked the most effective.
Conclusion	Auricular acupressure plus acupuncture provided the best outcomes but findings were limited by the quality of the evidence.

1.3.9.6. Lian 2020

Liang Jiabin. [Meta-analysis of the application of acupuncture and combined drug anesthesia in

anorectal surgery]. Journal of Hainan Medical University. 2020. [212898].

Objective	To evaluate the efficacy and safety of acupuncture combined with drug anesthesia and simple drug anesthesia in anorectal surgery.
Methods	Cochrane system evaluation method was used to evaluate the randomized controlled trial of acupuncture combined with drug anesthesia. The search ranges from China HowNet, Wanfang, Chinese Biomedical Literature, Pubmed to Embase, till August 2019. Randomized controlled trials of acupuncture combined drug anesthesia were selected to meet the inclusion criteria. Cochrane risk bias was used to evaluate the quality of the trials. Finally, RevMan 5. 2 software was used for statistical analysis.
Result	Totally, **15 articles** were included in this study, including **1 321 patients**. The homogeneity was good, with the combined effect (OR=3. 55, 95% CI: 2. 06-6. 12), and the combined effect Z=4. 57, P<0. 000 01, which had statistical significance. It indicated that the combined drug anesthesia of acupuncture was superior to the simple drug anesthesia in anorectal surgery. The homogeneity of ADR analysis was good (OR=0. 16, 95% CI: 0. 11, 0. 24, Z=8. 88, P<0. 000 01), which showed that the ADR rate of acupuncture combined with drug anesthesia group was lower than that of simple drug anesthesia group in anorectal surgery.
Conclusion	Acupuncture combined with drug anesthesia can improve the anesthetic effect and reduce the incidence of adverse reactions in anorectal surgery compared with simple drug anesthesia.

1.3.10. surgical herniorrhaphy

1.3.10.1. Shekouhi 2023

Shekouhi R, Farz F, Sohooli M, Mohammadi S, Abbasi A, Razaghi M, Fereydouni M, Sohrabi M, Seyed-Alagheband SA, Darabi MH. Investigating the safety and efficacy of nerve stimulation for management of groin pain after surgical herniorrhaphy: a systematic review and meta-analysis. Hernia. 2023 Dec;27(6):1363-1373. https://doi.org/10.1007/s10029-023-02861-5

Purpose	Chronic post-operative inguinal pain (CPIP) following inguinal hernia repair has been a major sequela affecting 4000-48000 patients annually. Optimal management of CPIP has been a challenge, and pharmacological management particularly with opioids has shown unsatisfactory results. The main objective of this systematic review is to investigate the safety and efficacy of neuromodulation as an alternative intervention for the management of post-operative inguinal pain.
Methods	A literature search was conducted by three reviewers to identify all relevant studies on the use of neuromodulatory interventions for treating post-operative inguinal pain. Data on study characteristics, neuromodulatory modalities, and patient's clinical data such as pre/post-interventional pain scores and analgesic requirements were extracted and reported.
Results	A total of 389 patients with 357 (95.9%) males and 15 (4.1%) females were evaluated. The mean age of study participants was 47.9 ± 10.4 years. There were 187 (48.1%) and 202 (51.9%) patients allocated to the control and trial groups, respectively. The most common neuromodulation modality was TENS (4, 36.4%), followed by SCS (3, 27.3%), PNS (3, 27.3%), and **acupuncture-assisted** (2, 18.2%). The overall mean follow-up duration of the entire cohort was 3.8 months. The mean difference between pre-operative and post-operative VAS scores in the trial groups was 4.65 (95% Confidence Interval [CI], 2.97, 6.33), which was statistically significant (P value < 0.05). Patient-reported outcome measures showed significant responsiveness toward their treatments.

Conclusion	Nerve stimulation, in its many forms, is a safe and feasible option for the management of post-operative inguinal pain.

1.3.11. Post-thoracotomy pain

1.3.11.1. Park 2021

Park S, Lyu YR, Park SJ, Oh MS, Jung IC, Lee EJ. Electroacupuncture for post-thoracotomy pain: A systematic review and meta-analysis. PLoS One. 2021;16(7). [220251]. doi

Background	Thoracotomy is an invasive surgical procedure that produces intense postoperative pain. Electroacupuncture has been used to induce analgesia in various situations, including after surgery. The aim of the following systematic review and meta-analysis was to evaluate the effect of electroacupuncture on post-thoracotomy pain.
Methods	The studies for the systematic review were searched using the following 9 databases: PubMed, Cochrane Library, EMBASE, MEDLINE Complete, Google Scholar, China National Knowledge Infrastructure (CNKI), Korean Medical Database (KMBASE), Koreanstudies Information Service System (KISS), and OASIS, without language restriction. Randomized controlled trials (RCTs) that met the inclusion criteria were selected. The quality assessment was performed using the Cochrane risk-of-bias tool, and RevMan 5.3 was used for meta-analysis. The review protocol is registered in the International Prospective Register of Systematic Reviews (PROSPERO) as CRD42019142157.
Results	**Eleven randomized controlled trials** were included in the systematic review. The meta-analysis was performed for two outcome measures: pain score 24 hours after surgery and total dose of opioid analgesics. A subgroup analysis was performed according to the control group: sham acupuncture and conventional analgesia group. Pain score 24 hours after surgery of electroacupuncture group showed a standard mean difference of -0.98 (95% CI: -1.62 to -0.35) compared to sham acupuncture. The standard mean difference was -0.94 (95% CI: -1.33 to -0.55) compared to conventional analgesia. The total dose of opioid analgesics of electroacupuncture group showed a standard mean difference values of -0.95 (95% CI: -1.42 to -0.47) compared to sham acupuncture. The standard mean difference was -1.96 (95% CI: -2.82 to -1.10) compared to conventional analgesia.
Conclusion	Current evidence suggests that electroacupuncture might provide useful pain relieving effect on post-thoracotomy patients. However, due to low quality and high heterogeneity of existing data, further rigorously designed studies should be performed to confirm the safety and efficacy.

1.3.12. Orthopedic Surgery

1.3.12.1. Chen 2023 (Wrist-Ankle Acupuncture)

Chen M, Xu Y, Fu X, Xie J, Cao X, Xu Y. Wrist-ankle acupuncture for the treatment of acute orthopedic pain after surgery: a meta-analysis. J Orthop Surg Res. 2023 Feb 15;18(1):106. https://doi.org/10.1186/s13018-023-03569-z

Background	Wrist-ankle acupuncture (WAA) has been reported in the treatment of acute pain in orthopedic surgery. However, the effects of WAA on acute pain were controversial in the current studies. Therefore, the purpose of this meta-analysis was to critically evaluate the effects of WAA on acute pain in orthopedic surgery.

Methods	Several digital databases were searched from the inception of databases to July 2021, including CNKI, VIP, Wanfang, CBM, Pubmed, Cochrane Central Register of Controlled Trials, Embase, Medline, and Web of Science Core Collection. The risk of bias was evaluated using the Cochrane collaboration criteria. The primary outcome indicators included pain score, pain killer dosage, analgesia satisfaction, and adverse reaction incidence. All analyses were performed with Review Manager 5.4.1.
Result	A total of **10 studies with 725 patients** with orthopedic surgery (intervention group: 361, control group: 364) were included in this meta-analysis. The results demonstrated that the pain score of the intervention group was lower than the control group, and the difference was statistically significant [MD = - 0.29, 95%CI (- 0.37, - 0.21), P < 0.0001]. Compared with the control group, the patient in the intervention group used smaller amounts of pain killer [MD = - 0.16, 95%CI (- 0.30, - 0.02), P = 0.02]. The satisfaction of patients on pain relief was also higher in the intervention group, and the difference was statistically [OR = 0.25, 95%CI (0.15,0.41), P < 0.0001].
Conclusion	WAA has a certain effect on acute pain in orthopedic surgery, and the effect of WAA combined with other therapies is better than that of not using WAA therapy.

1.3.12.2. Xu 2022 (Wrist-Ankle Acupuncture)

Xu N, Liu LL, Rong W. Wrist-Ankle Acupuncture as Additional Therapy for Postoperative Multimodal Analgesia in Orthopedic Surgery: Systematic Review and Meta-Analysis. Pain Med. 2022 Sep 30;23(10):1654-1669. doi: 10.1093/pm/pnac065. PMID: 35482527.

Background	The present meta-analysis analyzed the efficacy and safety of wrist-ankle acupuncture (WAA) as an additional therapy for postoperative multimodal analgesia after orthopedic surgery.
Methods	Electronic databases, including Cochrane Library, PubMed, EMBASE, Web of Science, CNKI, SinoMed, Wanfang, and VIP, were searched to identify randomized controlled trials and cohort studies that reported details of WAA as an additional therapy for postoperative multiple analgesia in orthopedic surgery before October 1, 2021. Analyzed outcomes included time points of the visual analog scale, use of patient-controlled intravenous analgesia (PCIA), and postoperative adverse events. Subgroup analysis was performed according to time points and complication type.
Results	**Eleven randomized controlled trials** and one cohort study were included in the meta-analysis. Among a total of **845 patients**, there were 422 patients in the WAA groups and 423 patients in the control groups. The WAA groups showed a better analgesic effect (standard mean difference [SMD] = -1.34; 95% confidence interval [CI]: -1.76 to -0.91; P < 0.00001; I2 = 0.94), lower use of PCIA (SMD = -1.48; 95% CI: -2.26 to -0.69; P = 0.0002; I2 = 0.94), and lower occurrence of postoperative adverse events (risk ratio = 0.38; 95% CI: 0.30 to 0.49; P < 0.00001; I2 = 0) than did the control groups.
Conclusion	WAA as an additional therapy for postoperative multimodal analgesia in orthopedic surgery showed advantages over control treatment in terms of pain relief, use of PCIA, and occurrence of postoperative adverse events.

1.3.12.3. Roberts 2012 Ø

Roberts M, Brodribb W, Mitchell G. Reducing the pain: a systematic review of postdischarge analgesia following elective orthopedic surgery. Pain Med. 2012;13(5):711-27. [166396].

Objective	This study aimed to determine which analgesic modalities used following discharge have the greatest efficacy in reducing postoperative pain after elective non-axial orthopedic surgery.
Design and setting	A systematic review was conducted using the databases CENTRAL, MEDLINE, and EMBASE, as well as clinical practice guidelines databases and trial registries. Titles and abstracts were perused by two reviewers for randomized clinical trials in English fulfilling inclusion and exclusion criteria. Quality assessments, including the Oxford Quality Score, selective reporting, and sources of funding, were also performed. OUTCOME MEASURES: Pain intensity/relief, global patient evaluation, and use of rescue analgesia, as well as adverse events and withdrawals.
Results	2,167 articles were retrieved and 23 articles were eligible for inclusion. They investigated analgesic modalities including alternative therapies (5); cyclooxygenase-2 inhibitors (3); nonselective, nonsteroidal anti-inflammatory drugs (NSAIDs) (12); opioids (2); and other pharmaceutical classes (1). Cycooxygenase-2 inhibitors and opioids demonstrated significant efficacy with minimal side effects. Most nonselective NSAIDs were effective analgesics but had a poorer side-effect profile. Alternative therapies demonstrated no significant efficacy.
Conclusions	Opioids and cyclooxygenase-2 inhibitors are effective in providing analgesia in the extended postoperative period following orthopedic surgery with a minimal side-effect profile, while nonselective NSAIDs need to be treated with caution. Homeopathy is not an effective analgesic, while **acupuncture has varied evidence and effectiveness**. Treatment of postoperative fatigue may also improve analgesia control. This study provides orthopedic surgeons with a basis for evidence-based prescribing of postdischarge analgesia. However, further studies to validate these results against modern reporting standards are needed.
Acupuncture	Acupuncture was not an effective stand-alone therapy in this setting.

1.3.13. Arthroscopic rotator cuff repair

1.3.13.1. Chen 2025

Chen JH, Wu K, Wang QL. Acupuncture therapy in postoperative rehabilitation for arthroscopic rotator cuff repair: a systematic review and meta-analysis. Front Surg. 2025 Sep 9;12:1631880. https://doi.org/10.3389/fsurg.2025.1631880

Introduction	This study aimed to evaluate the efficacy of acupuncture therapy in the postoperative rehabilitation of patients following arthroscopic rotator cuff repair.
Methods	Randomized controlled trials (RCTs) published up to October 31, 2024, were identified through systematic searches of EMBASE, Web of Science, China National Knowledge Infrastructure, China Science and Technology Journal Database, China Biomedical Literature Database, and Wanfang Database. Meta-analysis was conducted using RevMan 5.3 and Stata 18. A total of 18 studies involving 376 patients were included.
Results	The meta-analysis demonstrated that, compared to the control group, the acupuncture group showed significantly higher effective rates [OR = 5.02, 95% CI (2.32, 10.85), P < 0.001], improved Constant-Murley scores [MD = 7.27, 95% CI (3.96, 10.59), P < 0.001], greater range of motion in forward flexion [MD = 14.95, 95% CI (6.13, 23.77), P < 0.001], backward extension [MD = 6.58, 95% CI (3.56, 9.61), P < 0.001], abduction [MD = 16.24, 95% CI (6.79, 25.70), P < 0.001], external rotation [MD = 9.56, 95% CI (4.66, 14.47), P < 0.001], and significantly reduced pain according to Visual Analog Scale scores [MD = -1.45, 95% CI (-2.04, -0.86), P < 0.001].

Discussion	Acupuncture therapy, when compared to conventional treatments, may be beneficial for postoperative rehabilitation in patients after arthroscopic rotator cuff repair by reducing pain and improving shoulder joint mobility.

1.3.14. Vertebral Surgery

1.3.14.1. Fan 2025 (after percutaneous kyphoplasty or percutaneous vertebroplasty)

Fan J, Gao Y, Xiong Y, Li D, Xu L, Jiang G, Wang G, Yu X, Yang Y. Comparison of the efficacy of acupuncture-related therapies in treating postoperative pain in patients with osteoporotic vertebral compression fractures after percutaneous kyphoplasty or percutaneous vertebroplasty: A network meta-analysis. J Tradit Chin Med Sci. 2025 Oct;12(4):470-482. https://doi.org/10.1016/j.jtcms.2025.08.002

Objective	To evaluate the clinical efficacy of different acupuncture-related therapies in treating postoperative pain in patients with osteoporotic vertebral compression fractures (OVCFs) after percutaneous kyphoplasty (PKP) or percutaneous vertebroplasty (PVP) using a network meta-analysis.
Methods	A systematic search was conducted in PubMed, Cochrane Library, Embase, Web of Science, China National Knowledge Infrastructure, Wanfang Database, Chinese Scientific Journal Database, and Chinese Biomedical Literature Database (SinoMed) from their inception to January 15, 2025. Outcome measures included the Visual Analog Scale (VAS) score, Oswestry Disability Index (ODI) score, and overall efficacy rate. Literature screening, data extraction, and risk-of-bias assessment were independently performed by two researchers. Data analysis was conducted using Stata 17.0 software.
Results	A total of **35 randomized controlled trials involving 2860 patients** were included. The data analysis revealed that, in terms of improving VAS and ODI scores, the top three effective therapies were Fu's subcutaneous needling, wrist-ankle acupuncture, and acupotomy. For the overall efficacy rates in pain treatment, the top three therapies were wrist-ankle acupuncture, warm acupuncture and moxibustion, and Fu's subcutaneous needling. Based on the combined results across the three outcome measures, Fu's subcutaneous needling was found to be the most effective in relieving pain and improving lumbar function.
Conclusion	Fu's subcutaneous needling, wrist-ankle acupuncture, warm acupuncture and moxibustion, and acupotomy were all effective in treating postoperative pain post-PKP/PVP and improving lumbar function. However, further high-quality, large-sample studies are required to confirm these findings.

1.3.14.2. Zhang 2022 (lumbar disc herniation)

Zhang W, Liu H, Le X, Song K, Yang F, Cui Z, Zhao W. Acupuncture for postoperative pain of lumbar disc herniation: A systematic review and meta-analysis. Medicine (Baltimore). 2022 Dec 9;101(49):e32016. https://doi.org/10.1097/MD.0000000000032016

Background	Evidence for the effects of acupuncture on postoperative pain of Lumbar disc herniation (LDH) is inconsistent. We conducted this systematic review and meta-analysis to evaluate the efficacy of acupuncture for postoperative pain of LDH.

Methods	We performed a comprehensive search on PubMed, Embase, Web of Science, Cochrane Central, and four Chinese databases (CNKI, Wan Fang, CBMdisc, and VIP) for articles published before September 2021. The data extraction table was made for the ten included studies, and the risk of bias was assessed using the Cochrane collaboration tool, followed by statistical analysis using RevMan 5.3.
Results	A total of **ten studies involving 838patients** were included. The statistical meta-analysis showed that acupuncture treatment was significantly better than drugs in improving cure rate (OR = 2.24, 95% CI = [1.58, 3.19], P < .00001) and the total effectiveness rate (OR = 4.85, 95% CI = [2.59, 9.08], P < .00001). And the results from the meta-analysis showed that acupuncture group was superior to control group in debasing visual analog scale score (MD = -1.26, 95% CI = [-1.72, -0.79], P < .00001) and improving Japanese Orthopaedic Association score (MD = 4.21, 95% CI = [1.53, 6.90], P < .00001). In addition, acupuncture was statistically significantly better than drugs (OR = 0.27, 95% CI = [0.11, 0.62], P = .002) in the incidence of adverse events, However, there was no statistically significant difference between acupuncture and rehabilitation (OR = 0.36, 95% CI = [0.07, 1.98], P = .24).
Conclusion	Acupuncture is an effective and safe treatment for postoperative pain of LDH. It can be recommended to manage patients with postoperative pain of LDH. However, considering the unsatisfactory quality of the included studies, more high-quality randomized controlled trials with a large sample size are needed to elucidate this issue.

1.3.14.3. Cho 2014 ☆

Cho YH, Kim CK, Heo KH, Lee MS, Ha IH, Son DW, Choi BK, Song GS, Shin BC. Acupuncture for acute postoperative pain after back surgery: a systematic review and meta-analysis of randomized controlled trials. Pain Pract. 2014. 15(3):279-91. [170693].

Objectives	Acupuncture is commonly used as a complimentary treatment for pain management. However, there has been no systematic review summarizing the current evidence concerning the effectiveness of acupuncture for acute postoperative pain after back surgery. This systematic review aimed at evaluating the effectiveness of acupuncture treatment for acute postoperative pain (≤1 week) after back surgery.
Methods	We searched 15 electronic databases without language restrictions. Two reviewers independently assessed studies for eligibility and extracted data, outcomes, and risk of bias. Random effect meta-analyses and subgroup analyses were performed.
Results	**Five trials**, including 3 of high quality, met our inclusion criteria. The meta-analysis showed positive results for acupuncture treatment of pain after surgery in terms of the visual analogue scale (VAS) for pain intensity 24 hours after surgery, when compared to sham acupuncture (standard mean difference -0.67 (-1.04 to -0.31), P = 0.0003), whereas the other meta-analysis did not show a positive effect of acupuncture on 24-hour opiate demands when compared to sham acupuncture (standard mean difference -0.23 (-0.58 to 0.13), P = 0.21).
Conclusion	Our systematic review finds **encouraging but limited evidence** for the effectiveness of acupuncture treatment for acute postoperative pain after back surgery. Further rigorously designed clinical trials are required.

1.3.15. Hip surgery

1.3.15.1. Li 2022

Li M, Sun W, Zhou R, Huang Y, Meng F, Luo L, Yan Z, Shi X, Huang F, Fan C, Jiang Z. Non-

pharmaceutical treatments to relieve pain or reduce opioid analgesic intake and improve quality of life after total hip replacement: a meta analysis. Am J Transl Res. 2022 Oct 15;14(10):6828-6845. https://pubmed.ncbi.nlm.nih.gov/36398259

Objective	To reduce pain after total hip replacement (THR), researchers are interested in drug-free interventions. However, there is still a lack of consensus on their prevention efficacy.
Methods	We performed a meta-analysis to evaluate the use of nonpharmaceutical interventions for postoperative pain management after THR. We searched the Cochrane Library, MEDLINE, EMBASE, Web of Science, PEDRO, and ClinicalTrials.gov databases for articles published between and 1991 and 2020. The main outcome measures were postoperative pain, opioid consumption, and quality of life (QoL).
Results	In total, **1,942 patients** were studied. We found moderate evidence indicating postoperative pain relief measured by the Western Ontario and McMaster Universities Arthritis Index Scale, with mean differences (MDs) of -0.28 (95% confidence interval [CI], -0.49 to -0.07; P=0.01; I2 =0%) within three months, -0.19 (95% CI, -0.40 to 0.02; P=0.07; I2 =0%) between 3-6 months, and -0.13 (95% CI, -0.35 to 0.08; P=0.21; I2 =0%) between 6-12 months. Additionally, we found that **acupuncture** therapy could reduce opioid analgesic consumption (MD, -0.98; 95% CI, -1.18 to -0.79; fentanyl [mg/h]; P<0.01; I2 =72.2%) and significantly improve pain relief with an MD of 0.90 (95% CI, 0.47 to 1.33; P<0.01; I2 =0%) measured using the visual analog scale. Electrotherapy slightly improved perceived pain with an MD of 0.22 (95% CI, -0.27 to 0.70; P=0.37; I2 =0%). Moreover, moderate evidence has shown that preoperative exercises improve QoL.
Conclusions	This meta-analysis suggested that continuous passive motion did not improve pain or QoL. Postoperative exercise was associated with pain relief and improved QoL. **Acupuncture** therapy after THR has been shown to reduce opioid analgesic consumption.

1.3.16. Knee Surgery

1.3.16.1. Guo 2026

Guo C, Fang Z, Han B, Chen Y, Han Q, Tang W, Zhuang L, Liu Y, Qiang M, Huang P, Pan H. Effects of physical therapy modalities for early postoperative pain following total knee arthroplasty: a systematic review and network meta-analysis. Front Rehabil Sci. 2026;7:1780374. https://doi.org/10.3389/fresc.2026.1780374

Objective	This study aims to perform a network meta-analysis (NMA) to evaluate and compare the effects of various physical therapy modalities in mitigating early postoperative pain following total knee arthroplasty (TKA).
Methods	Systematic review and network meta-analysis conducted according to PRISMA-NMA guidelines. Literature searches were performed in PubMed, SPORTDiscus, Cochrane Library, Embase, Web of Science, CINAHL Plus and China National Knowledge Infrastructure. Randomized controlled trials assessing eight physical therapy modalities for early postoperative pain after TKA were included. Data were synthesized using a frequentist framework. Pain reduction assessed by validated pain scales, including the Visual Analogue Scale, was the primary outcome.

Results	A total of 42 RCTs involving 3,165 participants were included. **Electroacupuncture**, manual lymphatic drainage (MLD), kinesio taping and cryotherapy significantly reduced early postoperative pain compared with controls. Standardized mean differences ranged from −0.57 (95% CI −1.12 to −0.01) for MLD to −0.98 (95% CI −1.50 to −0.45) for cryotherapy. Cryotherapy had the highest probability of being among the most effective interventions (SUCRA 88.0%), followed by kinesio taping (83.1%) and **electroacupuncture** (64.0%). Compared with continuous passive motion, electroacupuncture (SMD −0.59; 95% CI −1.19 to 0.00), kinesio taping (SMD −0.86; 95% CI −1.54 to −0.18) and cryotherapy (SMD −0.95; 95% CI −1.59 to −0.31) demonstrated significant pain reduction. The certainty of evidence was low to very low for most comparisons.
Conclusion	Cryotherapy may be the most effective physical therapy modality for early postoperative pain relief after total knee arthroplasty, followed by kinesio taping and **electroacupuncture**. However, these findings should be interpreted cautiously because of the low to very low certainty of evidence and the potential risk of bias in the included studies. Further high-quality randomized controlled trials are required to confirm these results.

1.3.16.2. Kou 2026

Kou H, Liu H, Lai L, Yang S, Zhang X, Sun Y, et al. Acupuncture for postoperative pain management and functional recovery after total knee arthroplasty in older adults: a systematic review and meta-analysis. Geriatr Nurs. 2026;74(Pt B):104406. https://doi.org/10.1016/j.gerinurse.2026.104406

Background	Postoperative pain and delayed functional recovery are important concerns after total knee arthroplasty (TKA), particularly in older adults. This systematic review and meta-analysis evaluated the effectiveness and safety of acupuncture and electroacupuncture for postoperative pain management and functional recovery after TKA.
Methods	PubMed, Embase, Web of Science, and the Cochrane Library were searched for randomized controlled trials evaluating acupuncture or electroacupuncture in adults undergoing TKA. Primary outcomes were pain intensity measured by the Visual Analogue Scale (VAS) and functional outcomes assessed using the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), Hospital for Special Surgery (HSS) score, and range of motion. Secondary outcomes included analgesic consumption and adverse events.
Results	**Fifteen randomized controlled trials involving 1,037 participants** were included. Acupuncture and electroacupuncture were associated with reduced postoperative pain (VAS: SMD = -1.08, 95% CI -1.27 to -0.89; *p* < 0.00001) and improved functional outcomes measured by the HSS score (SMD = 1.39, 95% CI 1.02 to 1.75; *p* < 0.00001). No serious adverse events were reported in the included studies.
Conclusion	Acupuncture may reduce postoperative pain and improve selected functional outcomes after total knee arthroplasty in older adults. These findings may be relevant to multidisciplinary postoperative and rehabilitation care. However, the available evidence does not establish acupuncture as a nurse-led intervention.

1.3.16.3. Mi 2026

Mi Q, Xu Y, Bao F, Zhao X, Liu L, Wu Z. Does Auricular Acupoint-Related Therapy Enhance Rehabilitation After Total Knee Arthroplasty? A Systematic Review and Network Meta-Analysis. Pain Res Manag. 2026;2026(1):e9277186. https://doi.org/10.1155/prm/9277186

Background	Although auricular acupoint-related therapy (AART) is increasingly used for postoperative rehabilitation after total knee arthroplasty (TKA), evidence comparing the effectiveness of different AART modalities remains limited. This study aimed to evaluate the efficacy and safety of AART through a systematic review and network meta-analysis (NMA).
Methods	A systematic review and NMA of randomized controlled trials (RCTs) was conducted using multiple Chinese- and English-language databases from inception to June 2026. Two reviewers independently screened studies, extracted data, and assessed risk of bias using the Cochrane RoB 2 tool and certainty of evidence with GRADE. Pairwise meta-analyses and NMA were performed using RevMan 5.4 and R.
Results	**Twenty-four RCTs involving 1,790 patients** were included. Compared with routine rehabilitation, AART significantly reduced resting pain on postoperative day 1 (MD = -0.38) and day 3 (MD = -0.61) and improved movement-evoked pain on days 3 and 7. AART also improved Hospital for Special Surgery knee function scores and active range of motion and reduced complications including vomiting, dizziness, and urinary retention. Network meta-analysis suggested that auricular acupressure combined with Chinese medicine transdermal therapy may be the most effective intervention for early resting pain. Certainty of evidence was low or very low for most outcomes, so these findings were considered preliminary rather than definitive clinical guidance.
Conclusion	AART may be a useful non-pharmacological adjunct to multimodal rehabilitation after TKA, particularly for acute pain relief, functional recovery, and reduction of postoperative complications. High-quality trials are required to confirm these findings.

1.3.16.4. Wang 2026 (total knee arthroplasty)

Wang H, Chen W, Chen G, Zhu K, Zhang K, Li D, Lei Y. Efficacy and Safety of Electroacupuncture for Pain Alleviation in Post-Total Knee Arthroplasty Patients: A Systematic Review and Meta-Analysis. Med Sci Monit. 2026;32:e951091. https://doi.org/10.12659/MSM.951091

Background	Postoperative pain following total knee arthroplasty (TKA) is a substantial clinical challenge, often complicating recovery. Electroacupuncture (EA) has garnered interest as a potential intervention, yet its definitive efficacy and safety profile in the context of TKA remain subjects of ongoing academic debate, necessitating a systematic synthesis of existing evidence.
Methods	This meta-analysis systematically evaluated the impact of EA on post-TKA pain. A comprehensive literature search was conducted across 8 databases up to July 20, 2025. Statistical analysis of included randomized controlled trials was performed using Review Manager 5.3.0. **Sixteen RCTs involving 1142 patients** were included, assessing pain scores, biochemical markers, rescue analgesic use, and adverse events.
Results	The analysis demonstrated that EA significantly reduced resting pain on postoperative days 1, 3, and 7, and movement-related pain throughout the first postoperative week (all P<0.00001). EA significantly increased ß-endorphin levels and decreased prostaglandin E2 levels (P<0.00001). EA reduced rescue analgesic requirements (RR=0.46, P=0.01) and the incidence of adverse events (RR=0.45, P=0.002). The certainty of evidence ranged from moderate to very low.
Conclusion	This meta-analysis provides supportive evidence that EA can be an effective and safe adjunctive therapy for mitigating pain and reducing analgesic reliance after TKA, particularly during the initial postoperative week. However, limitations in study quality necessitate further rigorously designed randomized controlled trials.

1.3.16.5. Jin 2025 (total knee arthroplasty)

Jin Z, Tang Y, Huang H, Chen L, Zhang Z, Ma T, Wang Z, Su H, Zhou H, Lv S, Tong P. Comparison of Therapeutic Effects of Different Rehabilitation Methods on Patients Undergoing Total Knee Arthroplasty: A Network Meta-Analysis of Randomized Controlled Trials. Orthop Surg. 2025 Feb;17(2):348-360. https://doi.org/10.1111/os.14332

Objective	The rehabilitation methods after total knee arthroplasty (TKA) can affect the recovery of complications and joint function, and the selection and comparison of rehabilitation methods after TKA still need further research.
Methods	A comprehensive search of five databases and two clinical trial registration platforms was conducted from inception through March 31, 2024, and conducted to identify eligible randomized controlled trials (RCTs). We extracted the required data according to the Cochrane Handbook for Systematic Reviews of Interventions. Finally, 32 trials involving 2292 patients were included, the mean age of the enrolled patients was ~69.10 years, the sex ratio of males was (31.6%), and the longest follow-up time was 2 years. And we have summarized nine rehabilitation intervention measures: conventional physical therapy (CPT), cryotherapy, thermal therapy (TT), **acupuncture**, hydrotherapy, neuromuscular training (NT), electrotherapy, continuous passive motion (CPM), continuous active motion (CAM). And use the range of motion (ROM), visual analog scale (VAS), Western Ontario and McMaster Universities osteoarthritis index (WOMAC) as the outcome measure to evaluate the effectiveness of various interventions. A Bayesian network meta-analysis (NMA) was carried out for calculating standardized mean difference (SMD) and the surface under cumulative ranking curve (SUCRA) of improvement of knee joint function after TKA by different rehabilitation methods.
Result	After treatment, the ROM results showed that cryotherapy, electrotherapy, and NT had better therapeutic effects. Among them, cryotherapy (WMD = 10.3, 95% CI 1.63-18.2) had a significant therapeutic effect. In terms of VAS, NT and TT showed good therapeutic effects. Among them, NT had a more significant therapeutic effect, while CAM had less effect. After treatment, in terms of WOMAC, TT, hydrotherapy, cryotherapy, and NT had better therapeutic effects. TT had the best therapeutic effect, while Hydrotherapy and Cryotherapy also had certain advantages.
Conclusion	NT, TT, cryotherapy, hydrotherapy, and electrotherapy rehabilitation therapies have good therapeutic effects for TKA patients compared with other interventions. Among them, NT may be the best postoperative rehabilitation therapy.

1.3.16.6. Li 2025

Li WX, Wu CQ, Feng W, Zhan YJ, Yang L, Jia HJ, Pei J, Li KP. Acupuncture for rehabilitation after total knee arthroplasty: a systematic review and network meta-analysis. Int J Surg. 2025 Jan 1;111(1):1373-1385. https://doi.org/10.1097/JS9.0000000000002006

Backgound	The increasing interest in acupuncture for promoting postoperative rehabilitation has encouraged its use in rehabilitation after total knee arthroplasty (TKA), but its effectiveness remains controversial.
Objective	This study aims to assess the efficacy of different models of acupuncture-related therapies on pain relief, motor function, inflammation, and overall rehabilitation of the knee after TKA.
Methods	Databases PubMed, Embase, Cochrane, Web of Science, Scopus, and Clinicaltrials.gov were searched to screen eligible randomized controlled trials (RCTs). All RCTs that used acupuncture/moxibustion on TKA patients were included by two researchers independently after rigorous quality evaluation, with data extracted. The statistics were performed by using R 4.2.3 and Stata 17.

Results	The network meta-analysis incorporated **28 RCTs**, 21 of which were conducted in mainland China and Taiwan. Evidence of the relation of several common acupuncture/moxibustion treatments was shown by the network meta-analysis (NMA). The results of NMA showed that electroacupuncture was the preferred therapy for soothing pain symptoms (standardized mean difference=0.58, 95% CI=0.36-0.81). Auricular acupressure was the best treatment to improve the knee motor function. Electroacupuncture was superior to special acupuncture in relieving knee joint stiffness and inflammation.
Conclusion	Acupuncture intervention, especially electroacupuncture, can effectively alleviate pain, improve motion, reduce stiffness, and decrease inflammation in post-TKA patients with no serious adverse events.

1.3.16.7. Tanghe 2025

Tanghe KK, Beiene ZA, Cheng SI, Gausden EB. A systematic review of pre-operative and intra-operative acupuncture in total hip and knee arthroplasty. Acupunct Med. 2025 Dec 1:9645284251400384. https://doi.org/10.1177/09645284251400384

Background	Objective: Total hip arthroplasty (THA) and total knee arthroplasty (TKA) are common elective surgical procedures that are often associated with significant post-operative pain, commonly leading to opioid use. Acupuncture has been studied as a non-invasive approach to alleviate post-operative pain and reduce opioid consumption. Our aim was to review the literature to assess the efficacy of pre-operative and intra-operative acupuncture as an analgesic adjunct for arthroplasty patients.
Methods	This systematic review followed the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) statement guidelines. A comprehensive search was conducted in multiple databases to identify studies that utilized acupuncture in primary THA and TKA patients from their inception to June 2023. Inclusion criteria included full-text availability and publication in the English language.
Results	**Eight studies** were included in the final analysis, comprising seven randomized controlled trials and one prospective cohort study. Meta-analysis was not feasible due to the heterogeneity of study design and outcome measures. Acupuncture use led to a significant reduction in total intra-operative fentanyl and post-operative patient-controlled analgesia (PCA) use in THA and TKA patients. Patients who received acupuncture reported fewer analgesic-related side effects. However, patient-reported outcome measures (PROMs) varied among studies, with no consistent trend observed.
Conclusion	The incorporation of pre- and intra-operative acupuncture into arthroplasty protocols may help reduce opioid usage and minimize analgesia-related side effects. It appears, based on the available literature, that acupuncture has the potential to improve pain management in arthroplasty patients. Although the number of studies remains limited, the cost-effectiveness and ease of implementation of acupuncture suggest that it could be an advantageous adjunct in the peri-operative setting. Further research is needed to establish best practices and guide healthcare professionals on the use of acupuncture in arthroplasty patients.

1.3.16.8. Chu 2024 (function)

Chu WM, Cao Y, Li SY, Wu Q, Gao XY. Rehabilitation with or without acupuncture for improving the knee function after total knee arthroplasty: A systematic review and meta-analysis: 全膝关节置换术后康复基础上有无针刺对改善膝关节功能的影响:一项系统评价和meta分析. World J Acupunct Moxibustion. 2024 Apr;34(2):95-102.|

Objective	To assess the effect and safety of acupuncture on the base of rehabilitation for knee function after total knee arthroplasty.
Methods	Relevant articles were collected from CNKI, Sinomed, Wanfang, VIP, Cochrane Library, Medline and Embase. The search was conducted by using a combination of subject terms and free words. The data were analyzed by Revman 5.4 software, and the included studies were evaluated in compliance with the Cochrane Collaboration's tool for assessing risk of bias in randomized trials.
Results	A total of **10 studies** of randomized controlled trial (RCT) were included, with **785 participants** involved, of which, 393 cases in experiment group and 392 cases in control group. The interventions were electroacupuncture in 4 RCTs, filiform needling in 4 RCTs and transcutaneous electrical acupoint stimulation in 2 RCTs. Meta-analysis results showed that, compared with rehabilitation alone, acupuncture combined with rehabilitation improved the score of Hospital for Special Surgery (HSS) (MD=4.27, 95% CI=[2.77, 5.78], Z=5.58, P<0.00001), increased the range of motion (ROM) of the knee (MD=3.09, 95% CI=[1.47,4.70], Z=3.75, P<0.001), and decreased the postoperative score of visual analogue scale (VAS) (MD=-0.53, 95%CI=[-0.74, -0.33], Z=5.04, P<0.00001), but the difference in VAS score between groups only indicated statistical significance, without clinical importance. The sensitivity analysis showed the results were stable. In subgroup analysis, the stability of VAS score was relatively poorer in electroacupuncture group and filiform needle group, which may be associated with the differences in waveform of electroacupuncture and trial setting.
Conclusion	Compared with rehabilitation alone, acupuncture in combination with rehabilitation could effectively improve the knee function for the patients after total knee arthroplasty.

1.3.16.9. Liu 2024 (network meta-analysis)

Liu N, Liu G, Chang X, Xu Y, Hou Y, Zhang D, Wang L, Chen S. Combining various acupuncture therapies with multimodal analgesia to enhance postoperative pain management following total knee arthroplasty: a network meta-analysis of randomized controlled trials. Front Neurol. 2024 Mar 18;15:1361037. https://doi.org/10.3389/fneur.2024.1361037

Objective	This study aims to evaluate the efficacy and safety of various acupuncture treatments in conjunction with multimodal analgesia (MA) for managing postoperative pain and improving knee function in patients undergoing total knee arthroplasty (TKA), based on the findings from clinical research indicating the potential benefits of acupuncture-related therapies in this context.
Methods	We searched Web of Science, PubMed, SCI-hub, Embase, Cochrane Library, China Biology Medicine (CBM), China National Knowledge Infrastructure (CNKI), Wanfang Data, and Chinese Scientific Journal Database (VIP) to collect randomized controlled trials of acupuncture-related therapies for post-TKA pain. After independent screening and data extraction, the quality of the included literature was evaluated. The potential for bias in the studies incorporated in the analysis was assessed according to the guidelines outlined in the Cochrane Handbook 5.1. Network meta-analysis (NMA) was conducted using RevMan 5.4 and Stata 16.0 software, with primary outcome measures including visual analog scale (VAS), pain pressure threshold (PPT), hospital for special surgery knee score (HSS), and knee joint range of motion (ROM). Furthermore, the interventions were ranked based on the SUCRA value.

Results	We conducted an analysis of **41 qualifying studies** encompassing **3,003 patients**, examining the efficacy of four acupuncture therapies (acupuncture ACU, electroacupuncture EA, transcutaneous electrical acupoint stimulation TEAS, and auricular acupoint therapy AAT) in conjunction with multimodal analgesia (MA) and MA alone. The VAS results showed no significant difference in efficacy among the five interventions for VAS-3 score. However, TEAS+MA (SMD: 0.67; 95%CI: 0.01, 1.32) was more effective than MA alone for VAS-7 score. There was no significant difference in PPT score among the three interventions. ACU + MA (SMD: 6.45; 95%CI: 3.30, 9.60), EA + MA (SMD: 4.89; 95%CI: 1.46, 8.32), and TEAS+MA (SMD: 5.31; 95%CI: 0.85, 9.78) were found to be more effective than MA alone for HSS score. For ROM score, ACU + MA was more efficacious than EA + MA, TEAS+MA, and AAT + MA, MA. Regarding the incidence of postoperative adverse reactions, nausea and vomiting were more prevalent after using only MA. Additionally, the incidence of postoperative dizziness and drowsiness following ACU + MA (OR = 4.98; 95%CI: 1.01, 24.42) was observed to be higher compared to that after AAT + MA intervention. Similarly, the occurrence of dizziness and drowsiness after MA was found to be significantly higher compared to the following interventions: TEAS+MA (OR = 0.36; 95%CI: 0.18, 0.70) and AAT + MA (OR = 0.20; 95%CI: 0.08, 0.50). The SUCRA ranking indicated that ACU + MA, EA + MA, TEAS+MA, and AAT + MA displayed superior SUCRA scores for each outcome index, respectively.
Conclusion	For the clinical treatment of post-TKA pain, acupuncture-related therapies can be selected as a complementary and alternative therapy. EA + MA and TEAS+MA demonstrate superior efficacy in alleviating postoperative pain among TKA patients. ACU + MA is the optimal choice for promoting postoperative knee joint function recovery in TKA patients. AAT + MA is recommended for preventing postoperative adverse reactions.

1.3.16.10. Xin 2024

Xin W, Miao Y, Yu M, Xing X, Ying-Ying X, Yan Z, Dai L, Hongshi H, Yu Y, Jian-Quan W, Bao-Hua L. Acupuncture Provides Short-Term Functional Improvements and Pain Relief for Patients After Knee Replacement Surgery: A Systematic Review and Meta-analysis. J Pain. 2024 Dec;25(12):104669. https://doi.org/10.1016/j.jpain.2024.104669

Aim	The impact of acupuncture on knee function and pain intensity following knee replacement remains controversial.
Methods	Therefore, we categorized the postsurgery recovery period into 3 phases: short-term (≤2 weeks), intermediate-term (2 weeks-3 months), and long-term (>3 months), and then assessed the effectiveness of acupuncture in improving function and alleviating pain at different stages following knee replacement. This meta-analysis included randomized controlled trials that compared acupuncture intervention with either no treatment or a sham group after knee replacement. Six databases were searched from inception to December 31, 2023, including PubMed, Embase, Cochrane Central Register of Controlled Trials, Web of Science, and 2 Chinese databases (Chinese National Knowledge Infrastructure and WanFang Data).

Results	A total of **23 studies comprising 1,464 participants** were included. Significant improvement of active range of motion was observed on day 7 and week 2 after operation. Lower pain intensity at rest was noted in patients receiving acupuncture in short-term periods after operation (12 hours, day 1, day 2, day 5, and week 2). A reduction in pain intensity during movement with acupuncture was observed on postoperative day 1 and day 7. Auricular acupuncture did not show not significant effectiveness in improving range of motion and pain intensity. For conventional acupuncture, the combination of distal and local point selection was found to be the most effective. Early application of acupuncture, in conjunction with physical therapy, starting before postoperative day 1 or day 2, was recommended. Further high-quality researches are warranted to validate the findings in this meta-analysis.
Perspective	This article demonstrates that acupuncture has short-term effects (≤2 weeks) on improving active range of motion and reducing pain during rest and during movement following knee replacement surgery. The findings support the early application of acupuncture in hospital settings after knee replacement. REGISTRATION ID: The study was registered on PROSPERO (CRD42024503479).

1.3.16.11. Chen 2021 (Total Knee Arthroplasty)

Chen Z, Shen Z, Ye X, Xu Y, Liu J, Shi X, Chen G, Wu J, Chen W, Jiang T, Liu W, Xu X. Acupuncture for Rehabilitation After Total Knee Arthroplasty: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. Front Med (Lausanne). 2021. [216629]. doi

Background	There is an increasing interest in acupuncture for promoting post-operative rehabilitation, but the effectiveness of acupuncture for rehabilitation after total knee arthroplasty (TKA) remains controversial. Objective: This study aims to investigate the effect of acupuncture on rehabilitation after TKA.
Methods	Database searches of PubMed, EMBASE, CINAHL, and China National Knowledge Infrastructure (CNKI) were conducted to obtain articles published until August 2020. All identified articles were screened, and data from each included study were extracted independently by two investigators. Meta-analysis was performed to examine the effects of acupuncture on pain, range of knee motion, function, and nausea/vomiting after TKA.
Results	A total of **nine randomized clinical trials** were included according to the inclusion and exclusion criteria in this review. Compared with routine treatment, acupuncture combined with routine treatment showed a significantly greater pain reduction at 8, 12, 24, and 48 h post-operatively after TKA. Meanwhile, we found that the acupuncture groups showed a significant function improvement and a lower percentage of nausea/vomiting in comparison with the control groups after operation. However, acupuncture groups demonstrated no statistically significant improvement in post-operative pain at 4 h, 7 days, 14 days, and more than 21 days, and no significant difference in range of knee motion was observed between the acupuncture groups and control groups after surgery.
Conclusions	Acupuncture, as a supplementary treatment after TKA, could improve function and reduce nausea/vomiting. However, the effect of acupuncture on pain relief may be mainly achieved within post-operative 48 h, and it had no efficacy in improving range of knee motion. More large-scale and high-quality studies are warranted.

1.3.16.12. Chen 2021 (Electroacupuncture, Total Knee Arthroplasty)

Chen W, Chen Z, Li J, Wang Y, Chen G, Jiang T, Wu Z, Ye Z, Zhang J, Shan J, Wu H, Shen Z, Liu W, Xu X.. Electroacupuncture as an Adjuvant Approach to Rehabilitation during Postacute Phase after Total Knee Arthroplasty: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. Evid

Based Complement Alternat Med. 2021. [220833]. https://doi.org/10.1155/2021/9927699

Background.	Increasing attention has been paid to electroacupuncture (EA) for promoting postoperative rehabilitation, but the effectiveness of EA for rehabilitation after total knee arthroplasty (TKA) remains obscure.
Objective	To examine the effect of EA on rehabilitation after TKA. Methods. Database searches on PubMed, CINAHL, Embase, and China National Knowledge Infrastructure (CNKI) were carried out to obtain articles, from inception to 15 October 2020. All identified articles were screened, and data from each included study were extracted independently by two investigators. Meta-analysis was conducted to assess the effects of acupuncture on pain, range of knee motion, and postoperative vomiting after TKA.
Results	In the current study, a total of **ten randomized clinical trials** were included according to the inclusion and exclusion criteria. Compared to basic treatment, EA combined with basic treatment showed a significantly greater pain reduction on 3, 7, and 14 days postoperatively after TKA. However, we found that EA had no significant improvement in enhancing the range of knee motion and decreasing the percentage of vomiting. Subgroup analysis suggested that a combination of EA and rehabilitation training was superior to rehabilitation training in pain relief, while EA combined with celecoxib capsules showed no significant difference in improving pain compared to celecoxib capsules alone.
Conclusions	In the postacute phase after TKA, EA, as a supplementary treatment, could reduce postoperative pain, but no evidence supported the benefits of EA for improving ROM of knee and decreasing the ratio of vomiting. Additional high-quality and large-scale RCTs are warranted.

1.3.16.13. Ko 2021 (Total Knee Replacement)

Ko HF, Chen CH, Dong KR, Wu HC. Effects of Acupuncture on Postoperative Pain After Total Knee Replacement: Systematic Literature Review and Meta-Analysis. Pain Med. 2021;22(9):2117-2127. [223023]. https://doi.org/10.1093/pm/pnab201

Objective	To identify the analgesic effectiveness of acupuncture after total knee replacement by systematic review.
Methods	A search of randomized controlled trials was conducted in five English medical electronic databases and five Chinese databases. Two reviewers independently searched in five English medical electronic databases and five Chinese databases. Two reviewers independently retrieved related studies, assessed the methodological quality, and extracted data with a standardized data form. Meta-analyses were performed with all-time-points meta-analysis.
Results	A total of **seven studies with 891 participants** were included. The meta-analysis results indicated that acupuncture had a statistically significant influence on pain relief (standardized mean difference = −0.705, 95% CI −1.027 to −0.382, P = 0.000). The subgroup analysis results showed that acupuncture's effects on analgesia had a statistically significant influence (standardized mean difference= −0.567, 95% CI −0.865 to −0.269, P = 0.000). The main acupuncture points that produced an analgesic effect when they were used after total knee replacement included the Xuehai, Liangqiu, Dubi, Neixiyan, Yanglingquan, and Zusanli points. Electroacupuncture frequency ranged between 2 and 100 Hz.
Conclusions	As an adjunct modality, the use of acupuncture is associated with reduced pain and use of analgesic medications in postoperative patients. In particular, ear acupuncture 1 day before surgery could reduce analgesia .

1.3.16.14. Lindsey 2021 (Knee Arthroplasty)

Lindsey MH, Mortensen S, Xu H, McNichol M, Abdeen A. The Role of Acupuncture in Postoperative Pain Management of Patients Undergoing Knee Arthroplasty Surgery: A Systematic Review and Meta-Analysis. JBJS Rev. 2021;9(8). [221678]. https://doi.org/10.2106/jbjs.rvw.20.00252

Acupuncture after total knee arthroplasty (TKA) may decrease the incidence of postoperative nausea and vomiting (PONV). Acupuncture did not decrease visual analog scale (VAS) scores in the 0 to 48-hour interval but did decrease VAS scores at >48 hours after TKA. The heterogeneity of the studies prevented meta-analysis of opioid use with acupuncture after TKA; a systematic review demonstrated mixed results. Additional studies are needed to investigate opioid reduction with acupuncture after TKA.

1.3.16.15. Yue 2018 (Total Knee Arthroplasty)

Yue C , Zhang X , Zhu Y , Jia Y , Wang H , Liu Y. Systematic Review of Three Electrical Stimulation Techniques for Rehabilitation After Total Knee Arthroplasty. J Arthroplasty. 2018;33(7):2330-2337. [193052].

Background	The comparative effectiveness of neuromuscular electrical stimulation (NMES), transcutaneous electrical nerve stimulation (TENS), and electroacupuncture (EA) for improving patient rehabilitation following total knee arthroplasty (TKA) is controversial. Therefore we conducted this systematic review to assess the available evidence.
Methods	The PubMed, OVID, and ScienceDirect databases were comprehensively searched and studies were selected and analyzed according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) recommendations. Data were extracted and qualitatively synthesized for several outcomes.
Results	Data were analyzed from 17 randomized controlled trials involving 1285 procedures: 8 NMES studies (608 procedures), 7 TENS studies (560 procedures), and **2 EA studies (117 procedures)**. Qualitative analysis suggested that NMES was associated with higher quadriceps strength and functional recovery after TKA. Recovery benefits were maximal when the stimulation was performed once or twice a day for 4-6 weeks at an intensity of 100-120 mA and frequency of 30-100 Hz. The electrode should be sufficiently large (100-200 cm2) to reduce discomfort. TENS at an intensity of 15-40 mA and frequency of 70-150 Hz provided effective analgesia after TKA. EA at an intensity of 2 mA and frequency of 2 Hz may also provide postoperative analgesia of TKA.
Conclusion	As adjunct modalities, NMES and TENS can effectively improve rehabilitation after TKA without triggering significant intolerance, and maximal benefits depend on optimized parameters and intervention protocols. **EA may be an effective adjunct modality for analgesia after TKA**.

1.3.16.16. Tedesco 2017 (Total Knee Arthroplasty) ☆☆

Tedesco D, Gori D, Desai KR, Asch S , Carroll IR, Curtin C, McDonald KM, Fantini MP, Hernandez-Boussard T. Drug-Free Interventions to Reduce Pain or Opioid Consumption After Total Knee Arthroplasty: A Systematic Review and Meta-analysis. JAMA Surg. 2017;152(10):. [175769].

Objective	To systematically review and meta-analyze evidence of nonpharmacological interventions for postoperative pain management after total knee arthroplasty.

Methods	Data Sources: Database searches of MEDLINE (PubMed), EMBASE (OVID), Cochrane Central Register of Controlled Trials (CENTRAL), Cochrane Database of Systematic Reviews, Web of Science (ISI database), Physiotherapy Evidence (PEDRO) database, and ClinicalTrials.gov for the period between January 1946 and April 2016. Study Selection: Randomized clinical trials comparing nonpharmacological interventions with other interventions in combination with standard care were included. Data Extraction and Synthesis: Two reviewers independently extracted the data from selected articles using a standardized form and assessed the risk of bias. A random-effects model was used for the analyses. Main Outcomes and Measures: Postoperative pain and consumption of opioids and analgesics.
Results	Of 5509 studies, 39 randomized clinical trials were included in the meta-analysis (2391 patients). The most commonly performed interventions included continuous passive motion, preoperative exercise, cryotherapy, electrotherapy, and acupuncture. Moderate-certainty evidence showed that electrotherapy reduced the use of opioids (mean difference, -3.50; 95% CI, -5.90 to -1.10 morphine equivalents in milligrams per kilogram per 48 hours; P = .004; I2 = 17%) and that **acupuncture delayed opioid use** (mean difference, 46.17; 95% CI, 20.84 to 71.50 minutes to the first patient-controlled analgesia; P < .001; I2 = 19%). **There was low-certainty evidence that acupuncture improved pain** (mean difference, -1.14; 95% CI, -1.90 to -0.38 on a visual analog scale at 2 days; P = .003; I2 = 0%). Very low-certainty evidence showed that cryotherapy was associated with a reduction in opioid consumption (mean difference, -0.13; 95% CI, -0.26 to -0.01 morphine equivalents in milligrams per kilogram per 48 hours; P = .03; I2 = 86%) and in pain improvement (mean difference, -0.51; 95% CI, -1.00 to -0.02 on the visual analog scale; P < .05; I2 = 62%). Low-certainty or very low-certainty evidence showed that continuous passive motion and preoperative exercise had no pain improvement and reduction in opioid consumption: for continuous passive motion, the mean differences were -0.05 (95% CI, -0.35 to 0.25) on the visual analog scale (P = .74; I2 = 52%) and 6.58 (95% CI, -6.33 to 19.49) opioid consumption at 1 and 2 weeks (P = .32, I2 = 87%), and for preoperative exercise, the mean difference was -0.14 (95% CI, -1.11 to 0.84) on the Western Ontario and McMaster Universities Arthritis Index Scale (P = .78, I2 = 65%).
Conclusions and Relevance	In this meta-analysis, electrotherapy and **acupuncture** after total knee arthroplasty were associated with reduced and delayed opioid consumption.

1.3.16.17. Chesham 2016 (Total Knee Arthroplasty) Ø

Chesham RA, Shanmugam S. Does preoperative physiotherapy improve postoperative, patient-based outcomes in older adults who have undergone total knee arthroplasty? A systematic review. Physiother Theory Pract. 2016. [160683].

Background	Knee osteoarthritis (OA) is a leading cause of disability in older adults (≥60) in the UK. If nonsurgical management fails and if OA severity becomes too great, knee arthroplasty is a preferred treatment choice. Preoperative physiotherapy is often offered as part of rehabilitation to improve postoperative patient-based outcomes.
Objectives	Systematically review whether preoperative physiotherapy improves postoperative, patient-based outcomes in older adults who have undergone total knee arthroplasty (TKA) and compare study interventions to best-practice guidelines.
Method	A literature search of Randomized Controlled Trials (RCTs), published April 2004-April 2014, was performed across six databases. Individual studies were evaluated for quality using the PEDro Scale.

Results	Ten RCTs met the full inclusion/exclusion criteria. RCTs compared control groups versus: preoperative exercise (n = 5); combined exercise and education (n = 2); **combined exercise and acupuncture (n = 1)**; neuromuscular electrical stimulation (NMES; n = 1); and **acupuncture versus exercise (n = 1)**. RCTs recorded many patient-based outcomes including knee strength, ambulation, and pain. Minimal evidence is presented that preoperative physiotherapy is more effective than no physiotherapy or usual care. PEDro Scale and critical appraisal highlighted substantial methodological quality issues within the RCTs.
Conclusion	**There is insufficient quality evidence to support the efficacy of preoperative physiotherapy in older adults who undergo total knee arthroplasty**.

1.3.16.18. Barlow 2013 (Ambulatory Knee Surgery) ☆

Barlow T, Downham C, Barlow D. the effect of complementary therapies on post-operative pain control in ambulatory knee surgery: a systematic review. Complement Ther Med. 2013;21(5):529-34. [172671].

Objectives	Ambulatory knee surgery is a common procedure with over 100,000 knee arthroscopies performed in the U.K. in 2010-2011. Pain after surgery can decrease patient satisfaction, delay discharge, and decrease cost effectiveness. Multi-modal therapies, including complementary therapies, to improve pain control after surgery have been recommended. However, a comprehensive review of the literature regarding the use of complementary therapies to enhance pain control after ambulatory knee surgery is lacking, and this article aims to address this deficit.
Methods	CINHAL, EMBASE, MEDLINE, AMED and CENTRAL databases were searched. Only Randomised Controlled Trials were included. All eligible papers were quality assessed using the Jadad system, and data was extracted using piloted forms. Two independent reviewers performed each stage of the review. Full details of the study methodology can be found on Prospero, a systematic review register.
Results	Five studies satisfied our eligibility criteria: **three reporting on acupuncture**, one on homeopathy, and one on acupoints. Acupoint pressure was the only study that demonstrated reduced pain compared with placebo. This study was the least methodologically robust. Arnica, although demonstrating a significant reduction in swelling, did not affect post-operative pain. Acupuncture did not affect post-operative pain; however, a reduction in ibuprofen use was demonstrated in two studies.
Conclusions	Before recommending complementary therapy for routine use in ambulatory knee surgery, further work is required. Two areas of future research likely to bear fruit are demonstrating robust evidence for the effect of acupoint pressure on post-operative pain, and quantifying the positive effect of homeopathic arnica on post-operative swelling.

1.3.17. Tibial Fracture

1.3.17.1. Cho 2025

Cho W, Shin WC, Kim H, Chung WS, Song MY, Youn Y, Cho JH. Acupuncture for Post-Operative Pain Relief and Functional Improvement in Tibial Fracture: A Systematic Review and Meta-Analysis. Healthcare (Basel). 2025 Nov 12;13(22):2883. https://doi.org/10.3390/healthcare13222883

Background/Objectives	Acupuncture has been used to manage various fractures. The aim of this study is to evaluate the effectiveness of acupuncture in reducing post-operative pain and improving function after tibial fracture surgery.
Methods	A systematic review and meta-analysis of randomized controlled trials (RCTs) was conducted to evaluate acupuncture as an intervention for tibial fractures. Eight databases were searched, covering studies from inception to August 2024.
Results	**Sixteen RCTs with 1315 patients** were analyzed. Acupuncture, when combined with conventional rehabilitation (CR) or medication, significantly improved pain (MD -1.03, 95% CI [-1.44, -0.62]), Hospital for Special Surgery (HSS) score (MD 13.21, 95% CI [9.16, 17.26]), and range of motion (ROM) of knee joint (SMD 1.80, 95% CI [0.32, 3.28]) compared to CR or medication alone. It showed significant effects on effective rate (OR 4.92, 95% CI [2.79, 8.68]; I2 = 0%) and showed a lower incidence of complications (OR 0.13, 95% CI [0.06, 0.26]).
Conclusion	Acupuncture combined with CR or medication during the rehabilitation period after tibial fracture surgery can reduce pain, improve knee joint function, increase knee ROM, and decrease post-operative complications, compared to CR or medication alone.

1.3.18. Tonsillectomy

1.3.18.1. Sargios 2026

Sargios JT, Kayekjian D, Nguyen SA, Peters P, Clemmens CS, Carroll WW. Nonpharmacologic Therapy for Pediatric Posttonsillectomy Pain: A Systematic Review. Otolaryngol Head Neck Surg. 2026. https://doi.org/10.1002/ohn.70316

Objective	To understand efficacies of nonpharmacologic therapy for pediatric posttonsillectomy pain.
Data sources	CINAHL, Cochrane Library, PubMed, and Scopus.
Methods	Studies on nonpharmacologic interventions for pediatric posttonsillectomy pain were included in this systematic review. Extracted variables included demographics, pain scores, and postoperative bleeding. Pain scores on 0-10 scales (eg, Visual Analog Scale, Wong-Baker, FLACC, Oucher) were analyzed, and scales using different ranges, but comparable pain markers, were standardized to 0 to 10. Data were summarized as means, proportions (%), and differences (Δ) with 95% confidence intervals (CI). Risk of bias was evaluated using the Joanna Briggs Institute (JBI), ROBINS-I, or ROB-2 tools.
Results	Twenty-three studies (n = 3538) met inclusion criteria. Several nonpharmacologic intervention groups showed significant reductions in postoperative pain compared to control. At 6 hours postoperatively, **acupuncture** (Δ -0.8, 95% CI [-1.17, -0.43], P < .01), ice cream (Δ -1.4, 95% CI [-2.28, -0.52], P < .01), cartoon distraction (Δ -1.3, 95% CI [-1.83, -0.77], P < .01), and lavender essence inhalation (Δ -0.9, 95% CI [-1.76, -0.04], P = .04), were associated with lower pain scores. By postoperative Day 7, sugar-free gum was the only intervention associated with lower pain scores (Δ -2.2, 95% CI [-3.07, -1.33], P < .01). Salvia officinalis, cold diet, and food and effort restrictions were associated with less postoperative bleeding. Honey, intraoperative music, autologous serum, and liquid/soft diet (among other interventions) showed no changes in postoperative pain.

Conclusion	Nonpharmacologic interventions including **acupuncture**, sugar-free gum, distraction, and select oil essence therapies are associated with less pain, with some interventions reducing postoperative bleeding risk. This supports incorporating non-pharmacologic adjuncts for pediatric posttonsillectomy pain, though further high-quality studies are needed.

1.3.18.2. Hosseini 2025

Hosseini SJ, Hosseini SR, Firooz M. Complementary medicine for post-tonsillectomy pain management in children: a network meta-analysis. Ann Med Surg (Lond). 2025 May 20;87(7):4426-4434. https://doi.org/10.1097/MS9.0000000000003381

Backgound	Managing postoperative pain following tonsillectomy presents a significant challenge and often remains suboptimal. This study aimed to compare and rank complementary interventions for alleviating tonsillectomy-related pain in children.
Methods	A comprehensive search was conducted in the databases, including PubMed, Web of Science, Scopus, ClinicalTrials.gov, CENTRAL, and Google Scholar, to identify eligible randomized controlled trials. The quality of the included studies was evaluated using the ROB-2 tool. Data analysis was performed using a random-effects model with STATA version 17 software. Consistency within the network and loops was assessed, and interventions were ranked using the Surface Under the Cumulative Ranking (SUCRA) method.
Results	A total of 19 studies were included following the PRISMA guidelines. The findings revealed that complementary medicine significantly reduced post-tonsillectomy pain in the intervention group compared to the control group (SMD: -0.97, 95% CI: -1.35 to -0.59, Z = 5.01, P < 0.001, I 2 = 91.9%). Among the interventions evaluated, imagery (mean rank: 1.9; SUCRA: 0.9) and **acupuncture** (mean rank: 2.0; SUCRA: 0.9) demonstrated the highest effectiveness in alleviating post-tonsillectomy pain. Conversely, restriction interventions were identified as the least effective (mean rank: 10.7; SUCRA: 0.1).
Conclusions	The results found the potential benefits of integrating effective complementary interventions alongside routine treatment to reduce post-tonsillectomy pain in children. However, the limited availability of well-designed clinical trials directly comparing these complementary interventions highlights the need for further rigorous and high-quality research.

1.3.18.3. Cho 2016 (Tonsillectomy) ☆

Cho HK, Park IJ, Jeong YM, Lee YJ, Hwang SH. Can perioperative acupuncture reduce the pain and vomiting experienced after tonsillectomy? A meta-analysis. Laryngoscope. 2016;126(3):608-15. [186329].

Objectives	Acupuncture has been shown to reduce pain, nausea, and vomiting. However, its use alongside surgical interventions remains a novel practice, despite the increasing applications of alternative medicine. The goal of this meta-analysis was to perform a systematic review of the literature addressing the effect of acupuncture on postoperative pain, nausea, and vomiting following tonsillectomy.

Methods	DATA SOURCES: MEDLINE, SCOPUS, and Cochrane database. METHODS: Two authors independently searched the databases from the inception of article collection until June 2015. We included 1) analysis studies that compared groups of patients who had received perioperative acupuncture (acupuncture groups) with those who had received a pain control agent or sham treatment (control group); and 2) analysis studies in which the outcomes of interest were postoperative pain intensity, rescue analgesic consumption, or nausea and vomiting.
Results	**The pain score reported by patients during the first 48 hours and the postoperative need for analgesics were significantly lower in the acupuncture group versus the control group**. Additionally, the incidence of postoperative nausea and vomiting was significantly lower in the acupuncture group than in the control group. No major adverse effects of perioperative acupuncture were reported in the enrolled studies.
Conclusion	perioperative acupuncture may provide pain relief without side effects in patients undergoing tonsillectomy. However, there were high levels of heterogeneity in several of the measured parameters; thus, the efficacy of acupuncture cannot be considered to have been evaluated sufficiently. For this reason, additional large well-designed trials are required to further support the results of this study.

1.3.19. Neurosurgery

1.3.19.1. Tsaousi 2016 (Craniotomy) Ø

Tsaousi GG, Logan SW, Bilotta F. Postoperative Pain Control Following Craniotomy: A Systematic Review of Recent Clinical Literature. Pain Pract. 2016. [190370].

Objectives	Pain intensity after craniotomy is considered to be moderate to severe during the first 2 postoperative days. The ideal pain treatment to facilitate a rapid postoperative recovery and optimize outcome is unknown. *Objectives*: This systematic review aims to report current clinical evidence related to pharmacological and adjuvant analgesic modalities for postcraniotomy pain control.
Methods	Systematic review of randomized controlled trials (RCTs). DATA SOURCES: PubMed, EMBASE, and Cochrane Central Register of Controlled Trials (January 2011 to April 2016). ELIGIBILITY CRITERIA: Use of any analgesic drug, analgesic method, or nonpharmacological intervention for postcraniotomy pain relief. Also reported data on pain scores up to 48 hours postoperatively, supplemental analgesic requirements, or adverse events.
Results	Nineteen RCTs enrolling a total of 1,805 patients were included. Most of the retrieved studies were of moderate to good methodological quality. Systemic pharmacological intervention was assessed in 14 RCTs. Opioids (5 RCTs) provided superior pain relief to other analgesics with no significant side-effects, but the quality of studies was low. Diclofenac (3 RCTs) presented adequate craniotomy pain control without any adverse effects, while the use of parecoxib is not supported. Dexmedetomidine (3 RCTs) provided adequate transitional analgesia, but further research is needed. Data on the analgesic efficacy of gabapentin, pregabalin, and intravenous lidocaine is very limited (1 RCT for each). Scalp infiltration/block (3 RCTs) provided adequate analgesia in the early postoperative period, while **more studies are needed to verify the analgesic benefit obtained from nonpharmacological interventions, such as multipoint electro-acupuncture, in craniotomy surgery (2 RCTs)**.

Conclusions	No definite recommendations can be made based on this systematic review of pharamacological interventions following craniotomy due to significant divergence in the methodology of available studies. Limited evidence on scalp infiltration/block suggests an adequate analgesic effect in the early postoperative period. **Analgesic efficacy of dexmedetomidine and multipoint electro-acupuncture needs further evaluation.**

2. Clinical Practice Guidelines

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

2.1. American Physical Therapy Association (APTA, USA) 2026 ⊕

Rakel BA, Zimmerman BM, Geasland K, Embree J, Clark CR, Noiseux NO, Callaghan JJ, Herr K, Walsh D, Sluka KA. Transcutaneous electrical nerve stimulation for the control of pain during rehabilitation after total knee arthroplasty: A randomized, blinded, placebo-controlled trial. Pain. 2014 Dec;155(12):2599-2611. https://doi.org/10.1016/j.pain.2014.09.025

Pain Recommendation B: Physical therapists may use transcutaneous electrical nerve stimulation (TENS) [Acupuncture-like TENS] (acute and subacute phases) […] to decrease pain after TKA. *Evidence Quality*: moderate. *Recommendation Strength*: weak

Supporting evidence:

- 113.Kim B, Lohman E, Yim J. Acupuncture-like transcutaneous electrical nerve stimulation for pain, function, and biochemical inflammation after total knee arthroplasty. Altern Ther Health Med. 2021;27(1):28–34.

2.2. PROSPECT working group 2026 ⊕

Lemoine A, Alber A, Joshi GP, Van de Velde M, Dewinter G, Pogatzki-Zahn E, Bonnet MP; PROSPECT Working Group of the European Society of Regional Anaesthesia and Pain Therapy. Pain management after open thoracotomy 2025: procedure-specific postoperative pain management (PROSPECT) recommendations. Anaesthesia. 2026 Apr;81(4):541-555. https://doi.org/10.1111/anae.70123

Postoperative interventions: Acupuncture or cryoanalgesia is recommended when no regional analgesia can be performed.

Supporting references:

- 99- Chen T, Wang K, Xu J, Ma W, Zhou J. Electroacupuncture Reduces Postoperative Pain and Analgesic Consumption in Patients Undergoing Thoracic Surgery: A Randomized Study. Evid Based Complement Alternat Med. 2016;2016:2126416. https://doi.org/10.1155/2016/2126416
- 100- Park S, Lyu YR, Park SJ, Oh MS, Jung IC, Lee E-J. Electroacupuncture for post-thoracotomy pain: a systematic review and meta-analysis. PLoS One 2021; 16: e0254093. https://doi.org/10.1371/journal.pone.0254093.

2.3. Chinese Society of Anesthesiology 2025 ⊕

Chen X, Chu Q, Peng Y, Chen Y, Kaye AD, Liu H, Yang J, Wang T, Yu W; Pain Group of the Chinese Society of Anesthesiology. Clinical practice guidelines for postoperative pain management in adults (2024 edition). J Anesth Transl Med. 2025 Sep 19;4(3):161-185. https://doi.org/10.1016/j.jatmed.2025.09.001

Clinical question 5: what is the impact of preemptive analgesia on postoperative pain?
Recommendation 7: It is recommended to implement preemptive analgesia during the preoperative phase (especially multimodal analgesia and nonsteroidal anti-inflammatory drugs) to reduce opioid consumption (low-quality evidence, weak recommendation). Evidence summary: A 2022 network meta-analysis (188 RCTs, n = 13,769)61 showed that 19 types of preoperative preemptive analgesic drugs and interventions—including acetaminophen and NSAIDs, opioids, NMDA receptor antagonists, and α2-adrenergic receptor agonists (five drug types), as well as multimodal analgesia, epidural analgesia, incision infiltration, and **acupuncture** (four intervention measures)—were compared with placebo. Among them, 10 reduced postoperative pain scores, 8 reduced cumulative postoperative opioid consumption, 5 prolonged the time to first postoperative rescue analgesia, and 5 reduced the incidence of postoperative nausea and vomiting.
the update included two additional drug categories - corticosteroids and local anesthetics represented by lidocaine - and two additional interventions - nerve block and intrathecal injection - and **replaced “acupuncture” with “nerve/acupoint stimulation”**.

2.4. Association of Anaesthetists and the British Pain Society (UK, 2024) ⊕

El-Boghdadly K, Levy NA, Fawcett WJ, Knaggs RD, Laycock H, Baird E, Cox FJ, Eardley W, Kemp H, Malpus Z, Partridge A, Partridge J, Patel A, Price C, Robinson J, Russon K, Walumbe J, Lobo DN. Peri-operative pain management in adults: a multidisciplinary consensus statement from the Association of Anaesthetists and the British Pain Society. Anaesthesia. 2024 Nov;79(11):1220-1236. https://doi.org/10.1111/anae.16391

Acupuncture and acupressure. Some evidence in specific settings for analgesic benefit.

Supporting references:

- 45- Usichenko TI, Henkel BJ, Klausenitz C, Hesse T, Pierdant G, Cummings M, Hahnenkamp K. Effectiveness of Acupuncture for Pain Control After Cesarean Delivery: A Randomized Clinical Trial. JAMA Netw Open. 2022 Feb 1;5(2):e220517. doi: 10.1001/jamanetworkopen.2022.0517. Erratum in: JAMA Netw Open. 2022 Apr 1;5(4):e229622. https://doi.org/10.1001/jamanetworkopen.2022.0517
- 46- Zhang W, Liu H, Le X, Song K, Yang F, Cui Z, Zhao W. Acupuncture for postoperative pain of lumbar disc herniation: A systematic review and meta-analysis. Medicine (Baltimore). 2022 Dec 9;101(49):e32016. https://doi.org/10.1097/md.0000000000032016
- 47- Wu MS, Chen KH, Chen IF, Huang SK, Tzeng PC, Yeh ML, Lee FP, Lin JG, Chen C. The Efficacy of Acupuncture in Post-Operative Pain Management: A Systematic Review and Meta-Analysis. PLoS One. 2016 Mar 9;11(3):e0150367. https://doi.org/10.1371/journal.pone.0150367

2.5. College of Medicine and Health Science, Hawassa University (Ethiopia) 2023 ⊕

Tageza Ilala T, Teku Ayano G, Ahmed Kedir Y, Tamiru Mamo S. Evidence-Based Guideline on the

Prevention and Management of Perioperative Pain for Breast Cancer Peoples in a Low-Resource Setting: A Systematic Review Article. Anesthesiol Res Pract. 2023 Nov 3;2023:5668399. https://doi.org/10.1155/2023/5668399

Postoperative pain management: Acupuncture (Grade of recommendation B, Strength of evidence 1c)

2.6. European Society of Regional Anaesthesia and Pain Therapy 2023 ⊕

PROSPECT (PROcedure-SPECific postoperative pain managemenT) [craniotomy]

Mestdagh FP, Lavand'homme PM, Pirard G, Joshi GP, Sauter AR, Van de Velde M; PROSPECT Working Group∗ of the European Society of Regional Anaesthesia and Pain Therapy (ESRA). Pain management after elective craniotomy: A systematic review with procedure-specific postoperative pain management (PROSPECT) recommendations. Eur J Anaesthesiol. 2023 Jul 7. https://doi.org/10.1097/EJA.0000000000001877

Pre-operative and intra-operative interventions that improved postoperative pain were paracetamol, NSAIDs, intravenous dexmedetomidine infusion, regional analgesia techniques, including incision-site infiltration, scalp nerve block and **acupuncture**.

2.7. American Academy of Otolaryngology–Head and Neck Surgery Foundation (AAO-HNSF, USA) 2021 ⊕

Anne S, Mims JW, Tunkel DE, Rosenfeld RM, Boisoneau DS, Brenner MJ, Cramer JD, Dickerson D, Finestone SA, Folbe AJ, Galaiya DJ, Messner AH, Paisley A, Sedaghat AR, Stenson KM, Sturm AK, Lambie EM, Dhepyasuwan N, Monjur TM. Clinical Practice Guideline: Opioid Prescribing for Analgesia After Common Otolaryngology Operations Executive Summary. Otolaryngol Head Neck Surg. 2021;164(4):687-703. [217698]. doi.

STATEMENT 5. MULTIMODAL THERAPY: Clinicians should develop a multimodal treatment plan for managing postoperative pain. Recommendation based on observational studies with a preponderance of benefit over harms. Acupuncture may also be considered. An MA of 13 studies (682 patients) revealed that patients treated with acupuncture had less pain and used fewer opioids on postoperative day 1 as compared with those treated with control (<.001).

2.8. Deutsche Gesellschaft für Anästhesiologie und Intensivmedizin e.V. (DGAI, Germany) 2021 ⊕

Behandlung akuter perioperativer und posttraumatischer Schmerzen. [Treatment of acute perioperative and post-traumatic pain]. 2021. https://www.awmf.org/uploads/tx_szleitlinien/001-025l_S3_Behandlung-akuter-perioperativer-posttraumatischer-Schmerzen_2022-03.pdf

Acupuncture can be used as an adjuvant measure for certain indications. *Tonsillectomy*: Acupuncture can also be used perioperatively

2.9. Australian and New Zealand College of Anaesthetists (ANZA) 2020 ⊕

Acute Pain Management: Scientific Evidence Australian and New Zealand College of Anaesthetists (ANZA). 2020:1317P. [205268] . URL.

Acupuncture by a variety of techniques may reduce postoperative pain and opioid consumption for a variety of surgical types (S) (Level I); specifically, the benefit may occur after lumbar spinal surgery (U) (Level I [PRISMA]), total knee arthroplasty (U) (Level I [PRISMA]), total hip arthroplasty (N) (Level I) and craniotomy (N) (Level I [PRISMA]).

2.10. European Society of Regional Anaesthesia and Pain Therapy 2020 ⊕

PROSPECT (PROcedure-SPECific postoperative pain managemenT) [tonsillectomy]

Aldamluji N, Burgess A, Pogatzki-Zahn E, Raeder J, Beloeil H, PROSPECT Working Group collaborators. PROSPECT guideline for tonsillectomy: systematic review and procedure-specific postoperative pain management recommendations. Anaesthesia. 2020. [211868]. doi

The analgesic regimen for tonsillectomy should include paracetamol; non-steroidal anti-inflammatory drugs; and intravenous dexamethasone, with opioids as rescue analgesics. Analgesic adjuncts such as **intra-operative and postoperative acupuncture** as well as postoperative honey are also recommended.

2.11. Arbeitsgemeinschaft Gynäkologische Onkologie 2018 (AGO, Allemagne) Ø

Diagnosis and Treatment of Patients with Primary and Metastatic Breast Cancer. Complementary Therapy Survivorship. Arbeitsgemeinschaft Gynäkologische Onkologie (AGO). 2018;:35P. [182073].

Postoperative: pain relief, anxiety. Acupuncture. Level of evidence : 1b (individual RCT), grade of evidence (B), AGO recommendation grade (+/-) This examination or therapeutic intervention has for the patient no advantage shown. It can be done in individual cases. Based on current knowledge, there is currently no general recommendation to be pronounced.

2.12. American Pain Society, American Society of Regional Anesthesia and Pain Medicine (USA) 2016 Ø

Chou R, Gordon DB, de Leon-Casasola OA, Rosenberg JM, Bickler S, Brennan et al. Management of Postoperative Pain: A Clinical Practice Guideline From the American Pain Society, the American Society of Regional Anesthesia and Pain Medicine, et al. J Pain. 2016. 2016;17(2):131-57. [180924].

The panel can neither recommend nor discourage acupuncture, massage, or cold therapy as adjuncts to other postoperative pain treatments (insufficient evidence).

2.13. Australian and New Zealand College of Anaesthetists (ANZCA, Autralia-New Zealand) 2015 ⊕

Acute Pain Management: Scientific Evidence. Australian and New Zealand College of Anaesthetists. 2015:714P. [196721].

5. Acupuncture (S) (Level I), specifically auricular acupuncture (N) (Level I [PRISMA] reduces *postoperative pain*, opioid requirements as well as opioid-related adverse effects compared to a variety of controls. Beneficial effects of acupuncture on postoperative pain have been confirmed after back surgery and ambulatory knee surgery (N) (Level I [PRISMA]) and total knee joint replacement (N) (Level II).

2.14. Société Française d'Oto-Rhino-Laryngologie et de Chirurgie de la Face et du Cou (SFORL, France) 2014 ≈

Prise en charge de la douleur dans le cadre de l'amygdalectomie chez l'enfant et chez l'adulte Société Française d'Oto-Rhino-Laryngologie et de Chirurgie de la Face et du Cou. 2014. 57P. [167270].

Le recours à l'acupuncture dans l'amygdalectomie a principalement été étudié dans le traitement des nausées et vomissements postopératoires. Son efficacité dans le traitement de la douleur postopératoire a été peu évaluée. Recommandation 9. Le groupe de travail recommande de délivrer une information sur les méthodes de prises en charge complémentaires [dont l'acupuncture] lors de la consultation préopératoire (Grade B).

2.15. Austrian Society for Anesthesiology, Resuscitation and Intensive Care Medicine [Pédiatrie] (ÖGARI, Autriche) 2014 ⊕

Messerer B, Krauss-Stoisser B, Urlesberger B. [Non-pharmaceutical measures, topical analgesics and oral administration of glucose in pain management: austrian interdisciplinary recommendations on pediatric perioperative pain management]. Schmerz. 2014;28(1):31-42. [170629].

Acupuncture and hypnosis are also a meaningful addition within the framework of multimodal pain therapy.

2.16. U.S. Navy Bureau of Medicine and Surgery (USA) 2013 ⊕

Acupuncture. U.S. Navy Bureau of Medicine and Surgery. 2013.17p. [180539].

Category A (fair to high quality evidence): Authorized and recommended for routine use. Adult postoperative surgery pain

2.17. Haute Autorité de Santé (HAS, France) [chirurgie buccale] 2005 Ø

HAS. Prévention et traitement de la douleur postopératoire en chirurgie buccale. Paris: Haute Autorité de Santé (HAS). 2005. Recommandations [169381]. Argumentaire [169360]

Recommandation: D'autres approches thérapeutiques à visée antalgique postopératoire ont fait l'objet de publications : acupuncture, lasers, morphine locale, cryothérapie et antibiothérapie. Les données de la littérature ne permettent pas de démontrer leur efficacité antalgique en chirurgie buccale. Ces études ne permettent pas de recommander ces approches (accord professionnel) *Argumentaire* : Les études sur l'acupuncture sont d'interprétation malaisée mais montrent que cette technique retarde légèrement l'apparition de la douleur postopératoire (niveau de preuve 4).

From:
http://www.wiki-mtc.org/ - **Encyclopédie des sciences médicales chinoises**

Permanent link:
http://www.wiki-mtc.org/doku.php?id=acupuncture:evaluation:soins%20peri-operatoires:04.%20douleur%20post-operatoire

Last update: **31 Oct 2026 16:32**