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Acute Pain

Douleur aiguë : évaluation de l'acupuncture

1. Systematic Reviews and Meta-Analysis

1.1. Generic Acupuncture

1.1.1. Chou 2020

Chou R, Wagner J, Ahmed AY, Blazina I, Brodt E, Buckley DI, Cheney TP, Choo E, Dana T, Gordon D, Khandelwal S, Kantner S, McDonagh MS, Sedgley C, Skelly AC. Treatments for Acute Pain: A Systematic Review [Internet]. Rockville (MD): Agency for Healthcare Research and Quality (US). 2020. [213517]. URL.

Objectives	To evaluate the effectiveness and comparative effectiveness of opioid, nonopioid pharmacologic, and nonpharmacologic therapy in patients with specific types of acute pain, including effects on pain, function, quality of life, adverse events, and long-term use of opioids.
Methods	Data sources: Electronic databases (Ovid® MEDLINE®, PsycINFO®, Embase®, the Cochrane Central Register of Controlled Trials, and the Cochrane Database of Systematic Reviews) to August 2020, reference lists, and a Federal Register notice. Review methods: Using predefined criteria and dual review, we selected randomized controlled trials (RCTs) of outpatient therapies for eight acute pain conditions: low back pain, neck pain, other musculoskeletal pain, neuropathic pain, postoperative pain following discharge, dental pain (surgical or nonsurgical), pain due to kidney stones, and pain due to sickle cell disease. Meta-analyses were conducted on pharmacologic therapy for dental pain and kidney stone pain, and likelihood of repeat or rescue medication use and adverse events. The magnitude of effects was classified as small, moderate, or large using previously defined criteria, and strength of evidence was assessed.

Results	One hundred eighty-three RCTs on the comparative effectiveness of therapies for acute pain were included. Opioid therapy was probably less effective than nonsteroidal anti-inflammatory drugs (NSAIDs) for surgical dental pain and kidney stones, and might be similarly effective as NSAIDs for low back pain. Opioids and NSAIDs were more effective than acetaminophen for surgical dental pain, but opioids were less effective than acetaminophen for kidney stone pain. For postoperative pain, opioids were associated with increased likelihood of repeat or rescue analgesic use, but effects on pain intensity were inconsistent. Being prescribed an opioid for acute low back pain or postoperative pain was associated with increased likelihood of use of opioids at long-term followup versus not being prescribed, based on observational studies. Heat therapy was probably effective for acute low back pain, spinal manipulation might be effective for acute back pain with radiculopathy, acupressure might be effective for acute musculoskeletal pain, an opioid might be effective for acute neuropathic pain, massage might be effective for some types of postoperative pain, and a cervical collar or exercise might be effective for acute neck pain with radiculopathy. Most studies had methodological limitations. Effect sizes were primarily small to moderate for pain, the most commonly evaluated outcome. Opioids were associated with increased risk of short-term adverse events versus NSAIDs or acetaminophen, including any adverse event, nausea, dizziness, and somnolence. Serious adverse events were uncommon for all interventions, but studies were not designed to assess risk of overdose, opioid use disorder, or long-term harms. Evidence on how benefits or harms varied in subgroups was lacking.
Conclusions	Opioid therapy was associated with decreased or similar effectiveness as an NSAID for some acute pain conditions, but with increased risk of short-term adverse events. Evidence on nonpharmacological therapies was limited, but heat therapy, spinal manipulation, massage, **acupuncture, acupressure**, a cervical collar, and exercise **were effective for specific acute pain conditions**. Research is needed to determine the comparative effectiveness of therapies for sickle cell pain, acute neuropathic pain, neck pain, and management of postoperative pain following discharge; effects of therapies for acute pain on non-pain outcomes; effects of therapies on long-term outcomes, including long-term opioid use; and how benefits and harms of therapies vary in subgroups.

1.1.2. Chia 2018

Chia KL, Lam RPK, Lam CK, Tsui SH. Acupuncture in the emergency department: a systematic review of randomised controlled trials. Acupuncture in Medicine. 2018;36(3):183-192. [201340].

Introduction	A comprehensive review of both English and Chinese language literature to inform acupuncture practice in emergency department (ED) settings is lacking. Accordingly, we aimed to conduct a systematic review of English and Chinese randomised controlled trials (RCTs) of acupuncture use in the ED.
Methods	Four English databases (Embase, PubMed, AMED and CENTRAL) and two Chinese databases (CNKI and Wanfang) were systematically searched using the keywords 'acupuncture' and 'emergency department', followed by a bibliographic search of references. The data were extracted and assessed by two independent authors. RCTs were selected based on pre-defined criteria. Data were extracted and a risk of bias assessment was performed using the Cochrane risk of bias tool. The quality of evidence was rated using the Grading of Recommendations, Assessment, Development and Evaluation (GRADE) approach.

Results	In total, 1461 articles were screened and six RCTs involving 651 patients were included. For various acute pain conditions, acupuncture was superior to sham acupuncture, more effective than intravenous morphine, comparable to conventional ED treatment, and superior to standard ED care alone when used on an adjuvant basis; however, the overall level of evidence was low. Studies that applied acupuncture in hypertension and cardiac arrest were deemed to be at high risk of bias, and the level of evidence for these outcomes was very low. No major adverse events were reported in the included studies.
Conclusion	There is a lack of high-quality evidence to support the use of acupuncture in the ED. Multicentre RCTs with rigorous designs are warranted.

1.2. Special Acupuncture Techniques

1.2.1. Auricular Acupuncture

1.2.1.1. Jan 2017 (douleur aigue)☆

Jan AL, Aldridge ES, Rogers IR, Visser EJ, Bulsara MK, Niemtzow RC.. Does Ear Acupuncture Have a Role for Pain Relief in the Emergency Setting? A Systematic Review and Meta-Analysis. Med Acupunct. 2017;29(5):276-289. [176734].

Objective	Ear acupuncture might be the form of acupuncture best suited to improving acute pain management in the emergency department (ED). The primary aim of this review was to assess the analgesic efficacy of ear acupuncture in the ED. Secondary outcomes included measures of patient satisfaction, adverse effects, cost, administration techniques, and reduction of medication usage.
Methods	Seven databases and Google Scholar were searched up to April 27, 2017, using MeSH descriptors for three overarching themes (ear acupuncture, pain management, and emergency medicine). Meta-analyses were performed in 3 comparator groups: (1) ear acupuncture versus sham; (2) ear acupuncture-as-adjunct to standard care; and (3) ear acupuncture (both as sole therapy and adjuvant) versus control to calculate the standardized mean difference (SMD) and weighted mean difference (WMD) for pain scores out of 10.
Results	**Six randomized controlled trials and 2 observational studies, totaling 458 patients**, were retrieved after exclusions. The meta-analysis used data from 4 randomized studies representing 286 patients. The above 3 comparator groups resulted in SMDs of 1.69, 1.68, and 1.66, and WMDs of 2.47, 2.84, and 2.61 respectively, all favoring acupuncture. Battlefield (ear) acupuncture was the most commonly used technique. There were no significant adverse effects and patient satisfaction improved. Results regarding if acupuncture reduced medication use were equivocal. Significant study bias and heterogeneity were found.
Conclusions	While study numbers are limited, ear acupuncture, either as stand-alone or as-an-adjunct technique, significantly reduced pain scores and has potential benefits for use in the ED. Further studies will define acupuncture's role and if it reduces use of analgesic medications.

1.2.1.2. Murakami 2017 ★★

Murakami M, Fox L, Dijkers MP. Ear Acupuncture for Immediate Pain Relief-A Systematic Review and Meta-Analysis of Randomized Controlled Trials. Pain Med. 2017;18(3):551-564. [99627].

Objective	To systematically review the literature on the effectiveness of ear acupuncture (EA) for immediate pain relief
Methods	Data sources.: AMED, CINAHL, Cochrane Reviews, Embase, PsycINFO, PubMed, Scopus Web of Science, from inception through March 2015. Study selection.: English publications, randomized controlled trials on human subjects involving EA as a treatment for pain, with outcomes recorded within 48 hours. Data extraction and design.: Two authors independently assessed trial eligibility, quality, results, and side effects, and extracted data; a third author checked final data. Effect size (d), mean difference (MD), and 95% confidence interval (CI) were calculated. The Physiotherapy Evidence Database (PEDro) scoring system was used to assess study quality. Meta-analysis was performed for two primary outcomes measures-pain intensity score and analgesic requirements.
Results	Ten studies met inclusion criteria. Quality per PEDro scores: four excellent, four good, two fair. Based on their primary outcome measures, six studies showed EA being superior to its comparator, three showed no difference to comparators (which in all cases were analgesics), and one study showed significant pain decrease at the first time point and no significant decrease at the second. Meta-analysis was completed for the three studies that evaluated pain intensity as a primary outcome measure, and EA was superior to comparator (MD = -0.96, 95% CI = -1.82- -0.11), but the MD was small. Meta-analysis was completed for the six studies that evaluated analgesic requirements, and EA was superior (MD = -1.08, 95% CI = -1.78- -0.38]), again with a small MD. Six studies reported side effects; all were minor and transient.
Conclusions	Ear acupuncture may be a promising modality to be used for pain reduction within 48 hours, with a low side effect profile. Rigorous research is needed to establish definitive evidence of a clinically significant difference from controls or from other pain treatments.

1.2.2. Acupression

1.2.2.1. Busse 2020

Busse JW, Sadeghirad B, Oparin Y, Chen E, Goshua A, May C, Hong PJ, Agarwal A, Chang Y, Ross SA, Emary P, Florez ID, Noor ST, Yao W, Lok A, et al. Management of Acute Pain From Non-Low Back, Musculoskeletal Injuries : A Systematic Review and Network Meta-analysis of Randomized Trials. Ann Intern Med. 2020;173(9):730-738. [219437]. https://doi.org/10.7326/m19-3601

2. Clinical Practice Guidelines

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

2.1. British Columbia Ministry of Health, Doctors of BC, British Columbia Guidelines (Canada) 2022 ⊕

Managing Patients with Pain in Primary Care. 2022
https://www2.gov.bc.ca/gov/content/health/practitioner-professional-resources/bc-guidelines/managing-patients-with-pain-in-primary-care-part-1

Acute Pain. It is always appropriate to consider non-pharmacologic strategies such as chiropractic care, manual therapy, and **acupuncture** (as examples) in the acute onset of pain.
Acupuncture or TENS: Evidence for reducing pain, mitigate withdrawal side effects. Acupuncture may be beneficial in certain conditions as well as other Traditional Chinese Medicine techniques, including cupping and massage.

2.2. British Geriatrics Society (BGS, UK) 2021 ⊕ (older people)

Nickel C, Arendts G, Lucke J, Mooijaart S. Silver Book II: Geriatric syndromes. British Geriatrics Society (BGS). [201678]. URL.

Non-pharmacologic approaches. Increasingly are found to have added benefit and should be routinely incorporated, especially in cases of chronic pain. For acute pain management, non-pharmacological options include nerve blocks, **acupressure, reflexology**, and transcutaneous electrical nerve stimulation.

2.3. Australian and New Zealand College of Anaesthetists (ANZCA) 2020 ⊕

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

1. Acupuncture and acupressure for labour pain may reduce pain, use of pharmacological pain relief and increase satisfaction with pain management versus standard care or placebo (Q) (Level I [Cochrane Review]); Caesarean section rates are unchanged (R) (Level I [Cochrane Review]).
2. For oocyte retrieval, electroacupuncture plus sedation reduced procedural and postoperative pain compared with sedation plus placebo or sedation alone (U), but may be inferior to paracervical block plus sedation (Q) (Level I [Cochrane Review]).
3. Acupuncture or acupressure may be effective in the treatment of primary dysmenorrhoea (S) (Level I [Cochrane Review]).
4. Acupuncture may reduce the frequency of tension-type headaches and migraine (U) (Level I [Cochrane Review]); in migraine, it may be better tolerated than pharmacological prophylaxis (N) (Level I [Cochrane Review]).
5. Acupuncture may be effective in a variety of acute pain conditions in the emergency department setting (S) (Level I [PRISMA]) including back pain (N) (Level I [PRISMA])
6. 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]).
7. There is no difference between distant acupuncture and acupuncture at the incisional site for open abdominal surgery (S) (Level I [PRISMA]). 8. Acupuncture may reduce post-stroke pain (N) (Level I [PRISMA]).

2.4. American Academy of Physical Medicine and Rehabilitation (AAPM&R, USA) 2018 ⊕

Shaw E, Braza DW, Cheng DS, Ensrud E, Friedman AS, Hamilton RG, Miller JJ, Nagpal AS, Sharma S. American Academy of Physical Medicine and Rehabilitation Position Statement on Opioid Prescribing. PM R. 2018 Jun;10(6):681-683. https://doi.org/10.1016/j.pmrj.2018.05.004

Acute, subacute, and chronic pain management should be multimodal. AAPM&R believes that evidence-based, pain management treatments should include cognitive behavioral therapy, integrative treatments (ie, mindfulness, **acupuncture**), nonopioid medications, physical therapy modalities, interventional procedures, and appropriate opioid medications when indicated.