Table des matières

Awakening from General Anesthesia

Réveil après anesthésie générale

1. Systematic Reviews and Meta-Analysis

1.1. Generic Acupuncture

1.1.1. Bu 2025

Bu FD, Si SK, Zhang DB, Chi YL. Effect of invasive acupuncture on awakening quality after general anesthesia: systematic review and meta-analysis. Front Med (Lausanne). 2025 Jan 13;11:1502619. https://doi.org/10.3389/fmed.2024.1502619

Backgound	The process of waking up from general anesthesia is still not well understood, and recovery issues such as delayed awakening, agitation, postoperative cognitive dysfunction, continue to be a challenge for anesthesiologists. Currently, the treatment of these complications is mainly achieved through the antagonistic action of specific drugs, but sometimes the antagonistic drugs are not as effective as they should be and can add to the financial burden of the patient. Acupuncture, a common treatment in Traditional Chinese Medicine, is widely used around surgery. However, there is no enough evidence to show it improves recovery after anesthesia. To explore this, we reviewed relevant randomized trials and conducted a meta-analysis.
Objective	This systematic review was conducted to explore the effect of perioperative application of invasive acupuncture on the quality of postoperative awakening after general anesthesia.
Methods	By searching PubMed, Embase, Cochrane Clinical Trials Center, China Knowledge Network (CNKI), China Biomedical Database (CBM), Wanfang Medical Database, Weipu Database, to include randomized controlled trials of invasive acupuncture applied perioperatively. Search is limited from the build-up of the database to March 2022. The statistical analysis was conducted using RevMan 5.3. Quality assessment of the included research literature using Cochrane-recommended risk of bias assessment tool.
Results	**18 randomized controlled trials were included with 1,127 patients**. 565 patients in invasive acupuncture intervention group, 562 patients in control group. Results showed that invasive acupuncture group had a shorter eye opening time than control group (MD = -6.42, 95% CI [-8.17, -4.66], $p < 0.001$), shorter extubation times (MD = -5.84, 95% CI [-8.12, -3.56], $p < 0.001$), lower MAP at extubation (MD = -18.54, 95% CI [-22.69, -14.39], $p < 0.001$), lower HR at extubation (MD = -14.85, 95% CI [-23.90, -5.81], $p < 0.001$). No statistical difference in the occurrence of POCD (OR = 0.56, 95% CI [0.28, 1.11], $p = 0.10$) and postoperative agitation (OR = 0.42, 95% CI [0.11, 1.65], $p = 0.21$).

1.2. Special Acupuncture Techniques

1.2.1. Electroacupuncture

1.2.1.1. Si 2024

Si S, Zhao X, Mu Y, Xu L, Wang F, Zhang D, Su F. The effect of transcutaneous electrical acupoint stimulation on postoperative awakening after general anaesthesia: a systematic review and meta-analysis. Front Med (Lausanne). 2024 Sep 23;11:1347641.
https://doi.org/10.3389/fmed.2024.1347641

Backgound	The existing body of research concerning the impact of transcutaneous electrical acupoint stimulation (TEAS) on early postoperative recovery is marked by a lack of consensus. This meta-analysis, encompassing a systematic review of randomised controlled trials, seeks to critically assess the efficacy of TEAS in relation to awakening from general anaesthesia in the postoperative period.
Methods	The inclusion criteria for this study were peer-reviewed randomised controlled trials that evaluated the influence of TEAS on the process of regaining consciousness following general anaesthesia. A comprehensive search was conducted across several reputable databases, including PubMed, Embase, the Cochrane Library, the China National Knowledge Infrastructure, the VIP Database, the SinoMed Database, and the WANFANG Medical Database. The search was not limited by date, extending from the inception of each database up to December 2023. The methodological quality and risk of bias within the included studies were appraised in accordance with the guidelines outlined in the Cochrane Handbook for Systematic Reviews of Interventions, version 5.1, and its associated tool for assessing risk of bias.
Results	The analysis encompassed **29 studies involving a total of 2,125 patients**. Participants in the TEAS group demonstrated a significantly shorter duration to achieve eye-opening [mean difference (MD), -3.16 min; 95% confidence interval (CI), -3.93 to -2.39], endotracheal extubation (MD, -4.28 min; 95% CI, -4.79 to -3.76), and discharge from the post-anaesthesia care unit (MD, -8.04 min; 95% CI, -9.48 to -6.61) when compared to the control group receiving no or sham stimulation. Additionally, the TEAS group exhibited markedly reduced mean arterial blood pressure (MD, -9.00 mmHg; 95% CI, -10.69 to -7.32), heart rate (MD, -7.62 beats/min; 95% CI, -9.02 to -6.22), and plasma concentrations of epinephrine (standardised MD, -0.81; 95% CI, -1.04 to -0.58), norepinephrine (MD, -47.67 pg/ml; 95% CI, -62.88 to -32.46), and cortisol (MD, -110.92 nmol/L; 95% CI, -131.28 to -90.56) at the time of extubation. Furthermore, the incidence of adverse effects, including agitation and coughing, was considerably lower in the TEAS group relative to the control group (odds ratio, 0.30; 95% CI, 0.22-0.40).
Conclusion	The findings of this study indicate that TEAS may hold promise in facilitating the return of consciousness, reducing the interval to awakening post-general anaesthesia, and enhancing the awakening process to be more tranquil and secure with a diminished likelihood of adverse events. However, caution must be exercised in interpreting these results due to the notable publication and geographical biases present among the studies under review. There is an imperative for further high-quality, low-bias research to substantiate these observations.