

# Acupuncture, electrotherapy after knee replacement associated with reduced and delayed opioid use

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An analysis of drug-free interventions to reduce pain or opioid use after total knee replacement found modest but clinically significant evidence that acupuncture and electrotherapy can potentially reduce and delay opioid use; evidence for other interventions, such as cryotherapy and preoperative exercise, had less support, according to a study published by *JAMA Surgery*.

Inadequate postoperative [pain management](#) has profound effects. Long-term influences of poor pain management include transition to chronic pain and prolonged narcotic consumption, which can result in [opioid dependence](#), an epidemic in the United States. There is increased interest in nonpharmacological treatments to reduce pain after [total knee arthroplasty](#) (TKA; [knee replacement](#)). Yet, little consensus supports the effectiveness of these interventions.

Tina Hernandez-Boussard, Ph.D., of Stanford University, Stanford, Calif., and colleagues conducted a review and meta-analysis to evaluate the effectiveness of commonly used drug-free interventions for pain management after TKA. The researchers identified 39 randomized clinical trials (2,391 patients) that met criteria for inclusion in the analysis.

The most commonly performed interventions included continuous passive motion (CPM), preoperative exercise, cryotherapy, electrotherapy, and acupuncture. The researchers found moderate evidence that acupuncture and electrotherapy improved postoperative pain management and reduced opioid consumption. There was very low-certainty evidence that cryotherapy reduced opioid consumption, but no evidence that it improves perceived pain. The findings suggested that CPM and preoperative exercise do not help alleviate pain or reduce opioid consumption.

Several limitations of the study are noted in the article.

"As prescription opioid use is under national scrutiny and because surgery has been identified as an avenue for addiction, it is important to recognize effective alternatives to standard pharmacological therapy, which remains the first option for treatment," the authors write.

**More information:** Dario Tedesco et al. Drug-Free Interventions to Reduce Pain or Opioid Consumption After Total Knee Arthroplasty, *JAMA Surgery* (2017). [DOI: 10.1001/jamasurg.2017.2872](https://doi.org/10.1001/jamasurg.2017.2872)

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