Interventions to Treat Sleep Disturbances After Total Hip or Knee Arthroplasty: A Systematic Review

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INTRODUCTION:

Poor sleep quality is a common complaint after total joint arthroplasty and is associated with reports of higher pain and worse functional outcomes. In reducing the incidence of postoperative sleep disturbance, patients may have enhanced recovery and improved quality of life. The purpose of this systematic review is to evaluate the current state of evidence-based therapeutic options to improve patient-reported sleep quality after total hip and total knee arthroplasty.

METHODS: This systematic review was conducted in line with the PRISMA guidelines. A search of the literature using a combination of controlled vocabulary and keywords was performed utilizing MEDLINE (Ovid), EMBASE (Ovid), Cochrane CENTRAL, and Web of Science to identify studies that evaluated a sleep intervention on the effect of patient-reported sleep quality after total hip or total knee arthroplasty. Two investigators independently screened 1535 studies for inclusion and exclusion criteria and extracted data from the included studies. Quality analysis was performed utilizing the JBI Critical Appraisal Checklist for Randomized Controlled Trials. RESULTS:

Fourteen studies were included in this systematic review, representing 2,469 participants. Zolpidem, melatonin, pregabalin, gabapentin, long-acting morphine, preoperative methylprednisolone, rofecoxib, electroacupuncture, meditation, and chilled intraoperative irrigation with epinephrine were found to be efficacious interventions in improving sleep quality at least 1 day postoperatively. Of those, 10mg zolpidem administered 2 days preoperatively and 5 days postoperatively, 125mg of intravenous methylprednisolone administered immediately preoperatively, and self-guided meditation performed 2 weeks preoperatively and postoperatively were associated with significant improvements in sleep quality for 2 or more weeks postoperatively.

DISCUSSION AND CONCLUSION:

Sleep quality has been demonstrated to be poor in the postoperative period following total joint arthroplasty, leading to increased pain and worse functional outcomes. Interventions which showed long-term improvements in sleep quality, including zolpidem, preoperative methylprednisolone, and meditation, should be considered in all patients undergoing total hip or total knee arthroplasty.