TAKE-HOME MESSAGE

Regional nerve blockade reduces pain on movement, risk of pneumonia, and time to first mobilization among patients with hip fractures with no major complications.

How Effective Is a Regional Nerve Block for Treating Pain Associated With Hip Fractures?

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Results

The search strategy identified 1,116 trials, of which 31 (1,760 total participants) met the inclusion criteria for this review. The trials took place in 20 countries, with publication dates extending from 1980 to 2016. The type of peripheral nerve block performed varied greatly in the studies, including type of nerve block (eg, femoral nerve block, fascia iliaca compartment block), duration of block (eg, single-shot block, continuous block), technique (eg, nerve stimulator, ultrasonographic guidance, landmark technique), and timing of nerve block (eg, preoperatively, intraoperatively, postoperatively).

When compared with systemic analgesia, nerve block participants had a standardized mean reduction in pain level on movement at 30 minutes of -1.41, which equates to a reduction of -3.4 on a pain scale of 0 to 10 (Table). There was also a lower incidence of pneumonia (10.9% versus 26.9%), shorter time to first mobilization, lower cost for analgesic regimen, decreased opioid consumption, and increased patient satisfaction. There were no differences in the remaining outcomes, and no major complications were reported in the 31 trials assessing peripheral nerve blockade. Most of the studies were...
Regional nerve blockade allows targeted anesthesia to the involved area without the risks of respiratory depression, hypoxia, or delirium that can occur with systemic opioid analgesics.\(^5,6\)

This review demonstrated that the use of a regional nerve block reduced pain on movement and decreased the risks of pneumonia and time to first mobilization after the surgical repair. Several studies have demonstrated that regional nerve blockade can be successfully performed in the ED setting, and this can be a valuable intervention for patients awaiting admission or operative management.\(^7,8\)

However, there are several limitations with respect to the current study. The included studies demonstrated both statistical and clinical heterogeneity. Sources of variation included differences in the specific nerve block used, type of local anesthetic given, a mix of both single-injection and continuous nerve blocks, and differences in techniques. Most studies used either the landmark technique or a nerve simulator, with only 3 using ultrasonographic guidance. Moreover, only a limited number of studies were performed in the ED setting (6 studies, 472 patients),\(^7,9,13\) whereas the majority of studies were performed by anesthesiologists in the perioperative setting. Finally, the current data are limited to the adult population. The data supporting the use of regional nerve blocks in pediatric patients are significantly more limited.\(^14\)

Although more studies may be beneficial among pediatric patients and in the ED setting, this study supports the use of a regional nerve block for patients presenting with hip fractures in the ED setting.

Editor’s Note: This is a clinical synopsis, a regular feature of the *Annals*’ Systematic Review Snapshot (SRS) series. The source for this systematic review snapshot is: Guay J, Parker MJ, Griffiths R, et al. Peripheral nerve blocks for hip fractures. *Cochrane Database Syst Rev.* 2017;5:CD001159.

femoral nerve block (catheter technique) vs. systemic pain therapy using a clinic internal organisation model. Anaesthesist. 2006;55:414-422.


Michael Brown, MD, MSc, Jestin N. Carlson, MD, MS, and Alan Jones, MD, serve as editors of the SRS series.

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