

Procedure-specific practice for managing pain following primary total hip arthroplasty: recommendations on peripheral nerve blocks and neuraxial analgesia from the PROSPECT working group

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Background and goal: A systematic review was conducted to compare the efficacy and safety of analgesic, anaesthetic and operative techniques in influencing postoperative pain in adult patients undergoing primary total hip arthroplasty, to produce procedure-specific recommendations for patient care.

Materials and methods: The review was conducted according to the methods of the Cochrane Collaboration. MEDLINE was searched from 1966–Sept 2003 and EmBASE from 1988–Sept 2003. Randomised trials of interventions vs. placebo or other interventions conducted to examine their effect on postoperative pain were included. The use of VAS, NRS or VRS pain scales was required for inclusion. Qualitative- and meta-analysis was conducted. Recommendations were based on procedure-specific evidence, and from data derived from other orthopaedic procedures and clinical practice where THR-specific data were lacking.

Results: Twenty-nine studies were identified examining peripheral and neuraxial analgesia. *Epidural analgesia (12 studies):* Bolus or infused clonidine was superior to local anaesthetic (LA) for VAS scores; adding LA to clonidine was no better than clonidine alone. Adding bolus or infused clonidine to morphine or LA was superior to morphine or LA alone. *Spinal analgesia (14 studies):* Combining morphine with LA was superior to LA alone for VAS scores, supplementary analgesia use, and time to first analgesia request. Adding clonidine or morphine to LA was superior to LA alone for VAS scores. The combination of morphine and LA was superior to clonidine alone. Spinal was more effective than epidural for reducing VAS scores. *Femoral/lumbar plexus block (2 studies):* 1/2 studies showed superiority for postoperative pain scores and for time to supplementary analgesic use, and 1/1 for time to first analgesia request vs. placebo.

Conclusions: Epidural LA, morphine and clonidine, and spinal morphine and clonidine, are effective. The choice of agents and route should depend on patient comorbidity and the anaesthetic strategy. For spinal administration, single-shot LA ± morphine is preferable. The routine use of clonidine is not preferred due to its less favourable risk/benefit profile. Peripheral neural block is recommended, and has advantages in its side effect profile over epidural and spinal techniques.