

LAMINECTOMY

SUMMARY RECOMMENDATIONS

Notes on PROSPECT recommendations

PROSPECT provides clinicians with supporting arguments for and against the use of various interventions in postoperative pain based on published evidence and expert opinion. Clinicians must make judgements based upon the clinical circumstances and local regulations. At all times, local prescribing information for the drugs referred to must be consulted.

Grades of recommendation (GoR) and levels of evidence (LoE)

GoRs are assigned according to the overall LoE on which the recommendations are based, which is determined by the quality and source of evidence: [Relationship between quality and source of evidence, levels of evidence and grades of recommendation](#).

Pain after laminectomy and aims of the PROSPECT review

Lumbar laminectomy is commonly performed in patients with lumbar spinal stenosis to relieve low back pain, reduce radiculopathy and improve overall function. These procedures are increasingly performed in an ambulatory or day-care setting. Inadequate pain management is one of the main reasons for delayed discharge or readmission after surgery ([Elsharydah 2020](#); [Pendharkar 2018](#); [Yen 2017](#); [Mundell 2018](#)).

Effective pain control improves postoperative outcomes and patient satisfaction. Multimodal analgesia has frequently been recommended for enhanced recovery after surgery ([Joshi 2019](#)). However, a lack of procedure-specific recommendations has resulted in heavy reliance on opioid medications ([Kurd 2017](#)). Efforts to reduce opioid consumption and their associated adverse effects have been recently promoted ([Dietz 2019](#)).

The aim of this systematic review is to provide clinicians with robust evidence for the management of pain after lumbar laminectomy. Postoperative pain outcomes (pain scores and analgesic requirements) were the primary focus, but other recovery outcomes – including adverse effects – were also assessed, when reported, and the limitations of the data were critically reviewed. The main aim was to develop recommendations for pain management after laminectomy.

Summary recommendations

Recommended: Pre- and intra-operative interventions

- Unless otherwise stated, ‘pre-operative’ refers to interventions applied before surgical incision and ‘intra-operative’ refers to interventions applied after incision and before wound closure
- Analgesics should be administered at the appropriate time (pre- or intra-operatively) to provide sufficient analgesia in the early recovery period

IV or oral paracetamol and NSAID or COX-2-selective inhibitor

- A combination of paracetamol (Grade D) and a nonsteroidal anti-inflammatory drug (NSAID) or cyclooxygenase (COX)-2-selective inhibitor (Grade A), administered pre-operatively or intra-operatively and continued postoperatively, is recommended, unless there are contraindications

Wound instillation or infiltration with local anaesthetics

- Surgical wound instillation or infiltration with local anaesthetics, just before wound closure, is recommended (Grade A)

Recommended: Post-operative interventions

- Unless otherwise stated, ‘postoperative’ refers to interventions applied at or after wound closure
- Analgesics should be administered at the appropriate time (pre- or intra-operatively) to provide sufficient analgesia in the early recovery period

<p>IV or oral paracetamol and NSAID or COX-2-selective inhibitor</p>	<ul style="list-style-type: none"> • A combination of paracetamol (Grade D) and a nonsteroidal anti-inflammatory drug (NSAID) or cyclooxygenase (COX)-2-selective inhibitor (Grade A), administered pre-operatively or intra-operatively and continued postoperatively, is recommended, unless there are contraindications
<p>Opioids</p>	<ul style="list-style-type: none"> • Postoperative opioids are recommended as rescue medication (Grade D)

Interventions that are NOT recommended

Analgesic interventions that are not recommended for pain management in patients undergoing laminectomy.

Intervention	Reason for not recommending
Dexamethasone	Limited procedure-specific evidence
Oral gabapentin / pregabalin	Significant risk for adverse effects
Intrathecal opioids	Significant risk for adverse effects
Epidural analgesia	Limited procedure-specific evidence and risk for adverse effects
Paravertebral block	Limited procedure-specific evidence
Surgical perineural infiltration	Limited procedure-specific evidence
Surgical wound local infiltration	Limited procedure-specific evidence
Corticosteroids	Limited procedure-specific evidence
Intravenous magnesium	Lack of procedure-specific evidence
Transdermal fentanyl	Limited procedure-specific evidence and risk for adverse effects

Overall PROSPECT recommendations

Overall recommendations for perioperative pain management in patients undergoing lumbar laminectomy.

Recommendations for pain management in lumbar laminectomy

Pre-operative and intra-operative interventions	<ul style="list-style-type: none"> • Oral or IV paracetamol (Grade D) • Oral or IV NSAIDs / COX-2 specific inhibitors (Grade A) • Surgical wound instillation or infiltration with local anaesthetic (Grade A)
Postoperative interventions	<ul style="list-style-type: none"> • Oral or IV paracetamol (Grade D) • Oral or IV NSAIDs / COX-2 specific inhibitors (Grade A) • Opioids as rescue medication (Grade D)