

RADICAL PROSTATECTOMY

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) are assigned according to the overall level of evidence (LoE) on which the recommendations are based, which is determined by the quality and source of evidence.

Summary table: Grades of recommendation (GoR) based on source and level

Study type	LoE	GoR (based on overall LoE, considering balance of clinical practice information and evidence)	
		Procedure-specific	Transferable
Systematic review with homogeneous results	1	A	B
Randomised controlled trial (RCT) – high quality	1	A (based on two or more studies or a single large, well-designed study)	B
RCT – with limitations in methodology or reporting	2	B (or extrapolation from one procedure-specific LoE 1 study)	C
Non-systematic review, cohort study, case study; (e.g. some adverse effects evidence)	3	C	
Clinical practice information (expert opinion); inconsistent evidence	4	D	

An explanation of how study quality assessments are performed to determine the LoE and GoR can be found at the following link: [Radical Prostatectomy: levels of evidence and grades of recommendation.](#)

The AGREE II instrument (Brouwers 2010) is used internationally to assess the methodological rigour and transparency of practice guidelines. As far as possible, the methodology of the PROSPECT Radical Prostatectomy review meets the requirements of 'Domain 3: Rigour of development' of the AGREE II instrument:

- Systematic methods were used to search for evidence.
- The criteria for selecting the evidence are clearly described.
- The strengths and limitations of the body of evidence are clearly described.
- The methods for formulating the recommendations are clearly described.
- The health benefits, side effects, and risks have been considered in formulating the recommendations.
- There is an explicit link between the recommendations and the supporting evidence.
- The guideline has been externally reviewed by experts prior to its publication. [The evidence and recommendations will be submitted for peer-review after publication on the PROSPECT website]
- A procedure for updating the guideline is provided. [Methodology is provided so that the systematic review can be updated as required]

SUMMARY RECOMMENDATIONS FOR RADICAL PROSTATECTOMY

Interventions that are recommended for radical prostatectomy

Pre-operative interventions that are recommended for radical prostatectomy

Note: Unless otherwise stated, 'pre-operative' refers to interventions applied before surgical incision

Note: All analgesics should be administered at the appropriate time (pre- or intra-operatively) to provide sufficient analgesia in the early recovery period

COX-2-selective inhibitors	<ul style="list-style-type: none"> As with all analgesics, COX-2-selective inhibitors should be administered at the appropriate time (pre- or intra-operatively) to provide sufficient analgesia in the early recovery period (GoR B), based on transferable evidence from diverse procedures showing analgesic efficacy (LoE 1)
Dexamethasone	<ul style="list-style-type: none"> Pre-operative dexamethasone is recommended both for its analgesic and anti-emetic effects (GoR B), based on transferable evidence from multiple procedures (LoE 1), despite lack of procedure-specific evidence
Gabapentinoids	<ul style="list-style-type: none"> Pre-operative gabapentinoids are recommended (GoR B) based on transferable evidence from multiple procedures showing analgesic efficacy (LoE 1), despite lack of procedure-specific evidence

Intra-operative interventions that are recommended for radical prostatectomy

Note: Unless otherwise stated, 'intra-operative' refers to interventions applied after incision and before wound closure

Note: All analgesics should be administered at the appropriate time (pre- or intra-operatively) to provide sufficient analgesia in the early recovery period

Note: All intra-operative anaesthetic and/or analgesic interventions are considered in the postoperative section.

Postoperative interventions that are recommended

Note: 'Postoperative' refers to interventions applied at or after wound closure

COX-2-selective inhibitors	<ul style="list-style-type: none"> COX-2-selective inhibitors are recommended (GoR B) based on transferable evidence from multiple procedures showing analgesic efficacy (LoE 1), despite a lack of procedure-specific evidence
Systemic lidocaine	<ul style="list-style-type: none"> Lidocaine infusion is recommended for radical prostatectomy (GoR B), due to transferable evidence from multiple procedures showing analgesic efficacy (LoE 1) despite limited procedure-specific evidence
Systemic strong opioids	<ul style="list-style-type: none"> Systemic strong opioids are recommended following prostatectomy (GoR B), based on transferable evidence from multiple procedures, for their efficacy in reducing high-intensity postoperative pain (VAS \geq 50 mm) (LoE 1), with the following considerations: Systemic strong opioids should be used in combination with COX-2-selective inhibitors and paracetamol to reduce opioid use and its associated side-effects

	(GoR D)
	<ul style="list-style-type: none"> IV PCA strong opioids are recommended (GoR B) based on greater patient satisfaction compared with regular (fixed-interval) or PRN dosing (transferable evidence, LoE 1); however, fixed-interval IV administration titrated to pain intensity is also recognised as an effective mode of administration (LoE 4)
Systemic weak opioids	<ul style="list-style-type: none"> Weak opioids are recommended to be used for moderate- or low-intensity pain if non-opioid analgesia is insufficient or is contra-indicated (GoR B), based on transferable evidence (LoE 1) showing analgesic efficacy in multiple surgical procedures
	<ul style="list-style-type: none"> Weak opioids are recommended to be used in combination with non-opioid analgesics (GoR B), based on transferable evidence (LoE 1) showing analgesic efficacy in combination regimens
Paracetamol	<ul style="list-style-type: none"> Paracetamol is recommended (GoR B) due to strong transferable evidence from multiple procedures showing analgesic efficacy (LoE 1) despite lack of procedure-specific evidence
	<ul style="list-style-type: none"> Paracetamol should be administered at the appropriate time (pre- or intraoperatively) to provide sufficient analgesia in the early recovery period (GoR D)
Alternative analgesics	<ul style="list-style-type: none"> Muscarinic receptor antagonists (oxybutynin, tolterodine) are recommended (GoR B) to prevent bladder discomfort based on procedure-specific (LoE 1) and transferable evidence from various procedures (LoE 2)
Wound infiltration or infusion	<ul style="list-style-type: none"> For <i>open prostatectomy</i> local anaesthetic wound infiltration administered at the end of surgery is recommended (GoR B) because transferable evidence from hernia repair shows analgesic efficacy (LoE1) and because it is a convenient technique with a favourable safety profile, despite limited procedure-specific evidence
	<ul style="list-style-type: none"> For <i>video-assisted prostatectomy</i> local anaesthetic port-site infiltration administered at the end of surgery is recommended (GoR B) because transferable evidence from laparoscopic cholecystectomy shows analgesic efficacy (LoE 1) despite lack of procedure-specific evidence
	<ul style="list-style-type: none"> Long-acting local anaesthetics are recommended in preference to short-acting local anaesthetics (GoR D)

Overall recommendations for management of pain associated with radical prostatectomy

Pre-operative	<ul style="list-style-type: none"> • Oral COX-2-selective inhibitors and paracetamol* • ± Gabapentinoids • Dexamethasone
Intra-operative	<ul style="list-style-type: none"> • Parenteral COX-2-selective inhibitor and paracetamol* • Wound infiltration with long-acting local anaesthetic at the end of surgery** • ± Intravenous lidocaine infusion continued into the postoperative period** • Muscarinic receptor antagonists
Postoperative	<p>High-intensity pain (VAS\geq50 mm)</p> <ul style="list-style-type: none"> • COX-2-selective inhibitors + paracetamol ± gabapentinoids + intravenous patient-controlled analgesia opioid
	<p>Moderate-to-low intensity pain (VAS<50 mm)</p> <ul style="list-style-type: none"> • COX-2-selective inhibitors + paracetamol ± gabapentinoids ± weak opioid
<p>The above recommendations are based on evidence from unimodal interventions The optimal combinations of these interventions remain unknown at present time</p>	

* Administered in time to secure analgesia in immediate postoperative period

** Total dose of local anaesthetics should be adjusted to avoid the risk of systemic toxicity

IV lidocaine can be used when other approaches are not adequate or appropriate

VAS = visual analogue scale of 1–100 mm

Interventions that are NOT recommended for radical prostatectomy

Alternative analgesics: Pre-operative belladonna and opium suppository, melatonin, amantadine, or clonidine	Not recommended (GoR D) due to limited procedure-specific evidence
Intra- and postoperative conventional NSAIDs	Not recommended (GoR B) based on limited procedure-specific (LoE 2) and strong transferable evidence from multiple procedures concerning an increased risk of bleeding (LoE 1)
Intra- or postoperative ketamine	Not recommended for routine use (GoR D) because of conflicting procedure-specific evidence (LoE 4), despite favourable transferable evidence from more painful surgical procedures (LoE 1)
Lidocaine patch	Not recommended (GoR B) based on limited procedure-specific evidence
IM strong opioids	Not recommended because of the pain associated with these injections (GoR D)
Transdermal nicotine and intravenous magnesium	Not recommended (GoR D) due to limited procedure-specific and transferable evidence
Epidural analgesia	Not recommended for prostatectomy (GoR D) despite some procedure-specific evidence (LoE 1) of analgesic benefit, due to adverse risk:benefit profile
Paravertebral analgesia	Not recommended (GoR D) due to limited procedure-specific evidence
TAP-blocks	Not recommended (GoR D) due to lack of procedure-specific and limited transferable evidence
Intrathecal opioid anaesthesia and analgesia	Not recommended (GoR B) despite procedure-specific evidence (LoE 1) of analgesic benefit, due to adverse risk:benefit profile (intrathecal anaesthesia is also not recommended). This statement is supported by transferable evidence (LoE 1) from patients undergoing major surgery
Continuous local anaesthetic wound infusion	Not recommended (GoR B) based on procedure-specific evidence (LoE 2) showing lack of analgesic efficacy
Magnesium sulfate wound infiltration	Not recommended (GoR D) due to limited procedure-specific evidence

