ROTATOR CUFF REPAIR SURGERY

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.

Notes on pain after rotator cuff repair surgery

Rotator cuff repair surgery is associated with significant postoperative pain, and effective pain control can affect early postoperative rehabilitation (Sgroi 2018) and long-term outcomes (Novoa-Boldo 2018). Pain continues to be a significant concern after rotator cuff repair as it may result in prolonged admissions or readmissions (Marhofer 2015).

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	
Paracetamol and NSAIDs/COX-2-selective inhibitors	• Paracetamol and NSAID or COX-2-specific inhibitor are recommended, administered pre-operatively or intra-operatively and continued postoperatively, unless there are contra-indications (Grade D). • The analgesic benefits and opioid-sparing effects of these simple analgesics are well described (Joshi 2014, Martinez 2017, Ong 2010, Nir 2016, Apfel 2013).
IV dexamethasone	• Although there is limited procedure-specific evidence, IV dexamethasone is recommended (Grade B) for its ability to increase the analgesic duration of interscalene block and decrease supplemental analgesia use, as well as for its antiemetic effects. • The analgesic benefits and antiemetic effects of dexamethasone are well described (Waldron 2013, Henzi 2000).
Interscalene brachial plexus blockade	• Interscalene brachial plexus blockade is recommended as the first-choice regional analgesic technique. • Continuous interscalene brachial plexus block is recommended (Grade A). • Single-shot interscalene brachial plexus block is recommended (Grade A). • A continuous interscalene block is favoured over a single-shot interscalene block.
Suprascapular nerve block with or without axillary nerve block	• Suprascapular nerve block with or without axillary nerve block is recommended (Grade B) as an alternative to interscalene block, but not as the first choice. • A suprascapular nerve block reduces pain scores and/or opioid use after surgery but does not seem to have

	analgesic advantages over interscalene block.
Surgical technique	• Whenever possible, rotator cuff repair should be performed using an arthroscopic approach (Grade B), as it is associated with lower postoperative pain

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	
Paracetamol and NSAIDs/COX-2-selective inhibitors	• Paracetamol and NSAID or COX-2-specific inhibitor are recommended, administered pre-operatively or intra-operatively and continued postoperatively, unless there are contra-indications (Grade D). • The analgesic benefits and opioid-sparing effects of these simple analgesics are well described (Joshi 2014, Martinez 2017, Ong 2010, Nir 2016, Apfel 2013).
Opioids	• Opioids are recommended for rescue postoperative analgesia (Grade D).

Interventions that are NOT recommended

	Intervention	Reason for not recommending
Pre-operative	Gabapentin	Limited procedure-specific evidence
	Subacromial/intra-articular injection	Inconsistent procedure-specific evidence
	Stellate ganglion block	Lack of procedure-specific evidence and increased risks
	Cervical epidural block	Lack of procedure-specific evidence and increased risks
	Perineural adjuncts: opioid (buprenorphine or tramadol), glucocorticoid (betamethasone or dexamethasone), magnesium sulphate, alpha-2-adrenoceptor agonists (clonidine) added to the LA solution	Limited procedure-specific evidence
	Intra-operative hypotension	Limited procedure-specific evidence and increased risks
Postoperative	Early motion protocols versus delayed motion protocols	Lack of procedure-specific evidence
	Specific postoperative shoulder immobilisation device	Lack of device-specific evidence
	Transcutaneous Electrical Nerve Stimulation (TENS)	Limited procedure-specific evidence
	Compressive cryotherapy or ice wrapping	Lack of procedure-specific evidence
	Zolpidem as a sleep aid	Limited procedure-specific evidence
Surgical Technique	Hyperosmotic irrigation arthroscopy	Limited procedure-specific evidence
	Single-row anchor fixation versus transosseous hardware free suture repair	Limited procedure-specific evidence
	Platelet Rich Plasma supplementation	Limited and inconsistent procedure-specific evidence

Overall PROSPECT recommendations

Overall PROSPECT recommendations for management of pain after rotator cuff repair surgery

Pre-operative and intra-operative period
• Paracetamol (Grade D) • COX-2-specific inhibitor (Grade D) • Dexamethasone i.v. (Grade B) • Regional analgesia ○ Interscalene block, continuous (Grade A) ○ Interscalene block, single-shot (Grade A) ○ Suprascapular nerve block with or without axillary nerve block (but not as the first choice, Grade B)
Postoperative period
• Paracetamol (Grade D) • COX-2-specific inhibitor/NSAID (Grade D) • Opioid for rescue (Grade D)
Surgical Technique
• Arthroscopic Technique (Grade B)