Review of evidence

- One randomized, prospective and double-blind study (Gottschalk et al. 2003) showed significant reduction of pain scores and reduced opioid consumption.
- Ropivacaine 0.375% was more effective than ropivacaine 0.2%.
- Another study using bupivacaine through a subacromial-placed epidural catheter showed no benefits (Boss et al. 2004).
- The effects of an initial bolus have been evaluated in one study (Horn et al. 1999), which found a significant reduction of pain scores and opioid consumption within the first 12 h after surgery.
- No side effects have been reported.

<table>
<thead>
<tr>
<th>Publication</th>
<th>Grade* (1–13)</th>
<th>Number of patients</th>
<th>Catheter type and location</th>
<th>Preclosure bolus</th>
<th>Postoperative administration</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gottschalk et al. Anest Analg 2003</td>
<td>10</td>
<td>45</td>
<td>Multiholed Epifascial</td>
<td>Ropivacaine 0.75%, 30 mL</td>
<td>Ropivacaine 0.2% or 0.375% continuous infusion, 5 mL/h</td>
<td>↓ Pain scores ↓ Opioid consumption Ropivacaine 0.375% more effective than 0.2%</td>
</tr>
</tbody>
</table>

Table 3. Summary of literature for open shoulder surgery.
*see page 15 for grading of publications.
Practical details and expert opinion for open shoulder surgery

- Preclosure bolus infiltration of ropivacaine 0.75% or 0.5% should be used.
- A multiholed catheter for continuous surgical site infusion of ropivacaine 0.375%, 5 mL/h is suggested. Infusion duration should be at least 48 h, but should be tailored according to the patient’s needs.

Evidence grade: Low

Key messages for open shoulder surgery

- Continuous surgical site infusion may be effective in open shoulder surgery.
- Duration of infusion of at least 48 h and a flow rate of 5 mL/h is suggested.
- A higher concentration of local anaesthetic is probably necessary in open shoulder surgery (ropivacaine 0.375%) than in arthroscopic surgery (bupivacaine 0.25% or ropivacaine 0.2%).
References

For a list of additional references and suggestions for further reading, see Appendix 4.


Barber FA, Herbert MA. The effectiveness of an anesthetic continuous-infusion device on postoperative pain control. *Arthroscopy* 2002;18:76–81.


