Local injection, naproxen, and simple analgesia led to similar 1-year rates of symptom relief in lateral epicondylitis


**Question**
In adults with lateral epicondylitis (tennis elbow), which of 3 regimens (local corticosteroid injection, 2 weeks of naproxen, or simple analgesia) is most effective?

**Design**
Randomized (allocation concealed*), blinded (outcome assessor and statistician),† placebo-controlled trial with 12-month follow-up.

**Setting**
23 primary care practices in North Staffordshire and South Cheshire, England.

**Patients**
164 patients who were 18 to 70 years of age (66% ≥ 45 y, 52% men) and had consulted their general practitioner because they had had a new episode of lateral epicondylitis. Exclusion criteria were a history of inflammatory arthritis or gross structural abnormality of the elbow, contraindications to nonsteroidal anti-inflammatory drugs (NSAIDs) or local steroid injection, pregnancy, or breast feeding. 98% of patients were included in the analysis for 4-week complete recovery, 96% for 4-week and 12-month pain severity, and 98% for 6-month pain severity.

**Intervention**
Patients were allocated to a local corticosteroid injection of methylprednisolone, 20 mg, and 1% lignocaine, 0.5 mL (n = 53); enteric-coated naproxen, 500 mg twice daily for 2 weeks (n = 53); or placebo for 2 weeks (n = 58). Patients received co-codamol (a combination of paracetamol [acetaminophen] and codeine, 8 mg) for additional pain relief.

**Main outcome measure**
Patients’ global assessment of change (5-point scale). Secondary outcomes included pain severity (10-point Likert scale).

**Main results**
Analysis was by intention to treat. More patients in the injection group than in the naproxen or placebo groups reported complete recovery and had pain scores ≤ 3 at 4 weeks (P < 0.05 for all comparisons) (Table). At 6 months, fewer patients in the injection group than in the placebo group had pain scores ≤ 3 (P < 0.05) (Table). At 12 months, ≥ 80% of patients in each group had pain scores ≤ 3.

**Conclusions**
In patients with acute lateral epicondylitis, local corticosteroid injection was most effective for relieving symptoms at 4 weeks but not at 6 months. At 1 year, local injection, naproxen, and simple analgesia led to similar rates of symptom relief.

**Sources of funding:** Arthritis Research Campaign. UpJohn provided methylprednisolone injection; Syntex provided enteric-coated naproxen.

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*See Glossary.
†Information provided by author.

### Local corticosteroid injection (inj), naproxen (nap), and placebo (pl) for lateral epicondylitis‡

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Comparisons</th>
<th>Event rates</th>
<th>RBI (95% CI)</th>
<th>NNT (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete recovery at 4 wk</td>
<td>Inj vs nap</td>
<td>42% vs 5.7%</td>
<td>647% (161 to 2158)</td>
<td>3 (2 to 5)</td>
</tr>
<tr>
<td>Pain scores ≤ 3 at 4 wk</td>
<td>Inj vs nap</td>
<td>82% vs 48%</td>
<td>71% (27 to 138)</td>
<td>3 (2 to 7)</td>
</tr>
<tr>
<td>Pain scores ≤ 3 at 6 mo</td>
<td>Inj vs pl</td>
<td>65% vs 83%</td>
<td>22% (2 to 39)</td>
<td>6 (3 to 89)</td>
</tr>
</tbody>
</table>

‡RBR = relative benefit reduction. Other abbreviations defined in Glossary; RBI, NNT, RBR, NNH, and CI calculated from data in article.

**Commentary**
This pragmatic randomized controlled trial by Hay and colleagues, in which primary care patients were followed for 1 year, overcomes many of the limitations of previous trials (1) and allows some realistic clinical conclusions to be drawn.

This study confirms that a local injection of methylprednisolone, 20 mg, and lignocaine is effective in the treatment of lateral epicondylitis, providing short-term relief from pain. However, some patients who respond well to injection will probably relapse by 6 months.

On the other hand, NSAID treatment, in the form of naproxen, 500 mg twice daily for 2 weeks, fared no better than placebo at any point during follow-up. Some 30% of patients randomly allocated to the naproxen and placebo treatment groups received a corticosteroid injection during the follow-up period. In view of the lack of evidence that 1 form of NSAID performs any better than another or that NSAIDs are more effective than simple analgesics, NSAIDs apparently have no role in treating tennis elbow (2).

No matter what treatment was given—local injection, NSAID, or placebo—the outcome at 1 year was similar, with almost all patients making a satisfactory recovery. The remaining question is: What role, if any, does physical therapy have to play in the treatment of lateral epicondylitis?

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**References**