

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

Hay EM, Paterson SM, Lewis M, Hosie G, Croft P. Pragmatic randomised controlled trial of local corticosteroid injection and naproxen for treatment of lateral epicondylitis of elbow in primary care. *BMJ*. 1999 Oct 9;319:964-8.

## 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.

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\*See Glossary.

†Information provided by author.

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

Outcomes	Comparisons	Event rates	RBI (95% CI)	NNT (CI)
Complete recovery at 4 wk	Inj vs nap	42% vs 5.7%	647% (161 to 2158)	3 (2 to 5)
	Inj vs pl	42% vs 3.6%	1085% (235 to 4321)	3 (2 to 5)
Pain scores ≤ 3 at 4 wk	Inj vs nap	82% vs 48%	71% (27 to 138)	3 (2 to 7)
	Inj vs pl	82% vs 50%	64% (24 to 124)	4 (3 to 8)
			RBR (CI)	NNH (CI)
Pain scores ≤ 3 at 6 mo	Inj vs pl	65% vs 83%	22% (2 to 39)	6 (3 to 89)

†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

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