after critical appraisal; the paper by Assendelft et al is shown in table 3.

Comment
This is a well written paper that looks at PRCTs relating to the treatment of lateral epicondylitis. The authors have drawn tentative conclusions from studies, which they have identified as being methodologically weak. However, they take this into account in their analysis and show that both high and low quality papers draw similar conclusions. There was no attempt to look at unpublished data in this paper and it is therefore subject to publication bias. The papers examined are quite heterogeneous. Five studies compare steroids against placebo, two compare different regimens of corticosteroid, and the rest compare against the local normal practice (for example physiotherapy/ultrasound). The authors are at pains to point out these potential flaws in their work and do not draw unreasonable conclusions from the papers analysed.

Clinical bottom line
At the present time corticosteroid injections in lateral epicondylitis appear to be of benefit in the short term (2–6 weeks). Any long term benefit is unclear.

Table 3

<table>
<thead>
<tr>
<th>Author, date, and country</th>
<th>Patient group</th>
<th>Study type (level of evidence)</th>
<th>Outcomes</th>
<th>Key results</th>
<th>Study weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assendelft, 1996, Holland</td>
<td>12 randomised controlled trials</td>
<td>Meta-analysis</td>
<td>Pain</td>
<td>Pooled analysis indicated short term effectiveness (2–6 weeks) of local corticosteroid injection against control; pooled OR = 0.15 (95% CI 0.10 to 0.23)</td>
<td>Several RCTs analysed are methodologically weak. Methodological scores for reviewed papers varied from 29 to 63 out of 100. Corticosteroid was compared against a variety of different treatments including placebo.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Function</td>
<td>Longer term follow up (&gt;6 weeks) showed no statistical difference between corticosteroid injection and other treatments including placebo (pooled OR 0.73 (95% CI 0.37 to 1.44))</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Time to functional recovery</td>
<td>Further analysis of the results, stratifying for methodological quality revealed similar results in high and low quality trials. In the five placebo controlled trials the pooled OR was 0.20 (95% CI 0.11 to 0.36) in favour of therapy</td>
<td>No attempt to identify unpublished (grey) literature</td>
</tr>
</tbody>
</table>

Management of fractures of the neck of the fifth metacarpal

Report by Kevin Mackway-Jones, Consultant
Search checked by Simon Carley, Clinical Fellow

Clinical scenario
A 21 year old man presents on a Saturday morning having been involved in a drunken brawl the night before. He has a painful swollen right (dominant) hand. An x ray film reveals a fracture of the neck of the fifth metacarpal with some angulation.

Three part question
In a [young adult with a closed fracture of the fifth metacarpal neck with angulation but no rotational deformity] is [active treatment (manipulation and/or casting) better than early mobilisation] at [reducing deformity and restoring function]?

Search strategy
Medline 1966 to 5/98 using the OVID interface. ([exp metacarpus OR metacarp$] AND exp fractures) AND [fifth ti,ab,sh OR boxer ti,ab,sh OR small ti,ab,sh OR little ti,ab,sh] AND maximally sensitive RCT filter).

Search outcome
Thirty papers found of which 21 irrelevant; the remaining papers are shown in table 4.

Comment
There is no single study that answers the question posed. The evidence available is of variable quality but all points to the conclusion that manipulation and splintage of fourth and fifth metacarpal neck fractures to correct volar angulation is pointless, and that early mobilisation leads to early functional recovery with no apparent increase in residual symptoms. A well designed PRCT examining metacarpal neck fractures alone is warranted.
<table>
<thead>
<tr>
<th>Author, date, and country</th>
<th>Patient group</th>
<th>Study type (level of evidence)</th>
<th>Outcomes</th>
<th>Key result</th>
<th>Study treatments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arafa et al, 1986, UK¹</td>
<td>101 patients with fifth metacarpal fractures with no rotational deformity Early mobilisation with no dressing</td>
<td>Observational</td>
<td>Time until fit to work</td>
<td>34 within 2 weeks, 48 within 4 weeks, 19 within 12 weeks</td>
<td>Uncontrolled</td>
</tr>
<tr>
<td>Maitra and Sen, 1990, UK²</td>
<td>40 patients with fractures of the fifth metacarpal neck angulated more than 30 degrees Treated by manipulation and immobilisation</td>
<td>Observational</td>
<td>Angulation at 0 and 3 weeks</td>
<td>Significant improvement at 3 weeks but less than immediately after manipulation</td>
<td>Uncontrolled</td>
</tr>
<tr>
<td>Konradsen et al, 1990, Denmark¹</td>
<td>100 patients with metacarpal injuries of which 58 patients had unstable fractures of the second to fifth metacarpal Full v functional casting</td>
<td>PRCT</td>
<td>Angulation at cast removal</td>
<td>Statistically better (p&lt;0.05) reduction in angulation for functional cast after reduction aid at cast removal</td>
<td>Not blind</td>
</tr>
<tr>
<td>Theeuwen et al, 1991, Netherlands³</td>
<td>45 of 71 patients with isolated fractures of the neck of the fifth metacarpal Treated according to clinical decision Closed reduction (26) v no active treatment (19)</td>
<td>Clinical trial</td>
<td>Angulation at 1-5 years</td>
<td>Statistically significant improvement (10 degrees), p&lt;0.05 Shortening at 1-5 years</td>
<td>No difference</td>
</tr>
<tr>
<td>Breddam and Hansen, 1995, Denmark²</td>
<td>36 of 43 patients with subcapital fractures of the fourth and fifth metacarpal neck without lateral or rotational deformity Immediate mobilisation</td>
<td>Observational</td>
<td>Range of movement of MCPJ (clinical) Patient satisfaction</td>
<td>Range of movement normal (compared with opposite hand) in 64% Full satisfaction in 86%</td>
<td>Short follow up period</td>
</tr>
<tr>
<td>Braakman, 1997, Netherlands³</td>
<td>200 patients with primary fractures of the fourth and fifth metacarpals of which 63% were subcapital Anatomical (&lt;5 degrees) reduction v partial reduction</td>
<td>Case-control</td>
<td>Difference in residual angulation at follow up at 4 weeks</td>
<td>No significant difference in subcapital fractures</td>
<td>No control group</td>
</tr>
<tr>
<td>Braakman et al, 1998, Netherlands³</td>
<td>48 of 50 patients with fractures of the fifth metacarpal of which 35 were subcapital Ulnar gutter plast v adjacent strapping of fourth and fifth fingers PRCT</td>
<td>Functional recovery</td>
<td>Significantly different (56% v 100%) at 4 weeks. No difference at 6 months</td>
<td>Subcapital and shaft fractures</td>
<td></td>
</tr>
</tbody>
</table>

**Clinical bottom line**
Fractures of the fifth metacarpal neck with angulation but no rotational deformity should be treated by adjacent strapping the ring and little fingers and by encouraging early mobilisation.

Towards evidence based emergency medicine: best BETs from the Manchester Royal Infirmary. Management of fractures of the neck of the fifth metacarpal.

K Mackway-Jones

doi: 10.1136/emj.15.5.354

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