Towards evidence based emergency medicine: best BETs from the Manchester Royal Infirmary

Edited by K Mackway-Jones

Best evidence topic reports (BETs) summarise the evidence pertaining to particular clinical questions. They are not systematic reviews, but rather contain the best (highest level) evidence that can be practically obtained by busy practising clinicians. The search strategies used to find the best evidence are reported in detail in order to allow clinicians to update searches whenever necessary.

The BETs published below were first reported at the Critical Appraisal Journal Club at the Manchester Royal Infirmary. Each BET has been constructed in the four stages that have been described elsewhere. The four topics covered in this issue of the journal are:

- Follow up of a positive elbow fat sign
- Steroids in De Quervain’s tenosynovitis
- Antibiotics after dog bite
- Immobilisation after first anterior shoulder dislocation

Follow up of a positive elbow fat sign

Report by Andrea Gorzack, Clinical Fellow

Search checked by Kevin Mackway-Jones, Consultant

Clinical scenario

A 35 year old patient presents to the emergency department after a fall on the outstretched hand. He has tenderness over the radial head and limitation of pronation/supination of the forearm. You suspect a radial head fracture and perform radiography. This shows a positive fat pad sign but no fracture. You treat him with a collar and cuff but wonder if follow up radiography is really necessary.

Three part question

[In a patient with no obvious fracture but a positive fat pad sign after indirect trauma to the elbow] are [further x rays better than initial clinical impression] in [identifying new clinically important injuries]?

### Table 1

<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>Smith and Lee, 1978, UK¹</td>
<td>88 consecutive emergency department patients of all ages with elbow trauma, 28 patients with positive fat pad sign, age young and old, A&amp;E patients</td>
<td>Prospective observational study</td>
<td>Detection of fractures at elbow joint on x ray (inpatients with tenderness at weekly review), Change in clinical management</td>
<td>14 had fractures discovered on initial x ray, 9 of 14 patients with positive fat pad sign and no initial fracture had evidence of minor bony trauma on x ray at follow up, No change</td>
<td>Small number of patients (14) with positive fat pad sign and no initial fracture, Ages not reported</td>
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<tr>
<td>Beaux et al, 1992, Scotland²</td>
<td>49 emergency department patients aged 14–90 years with positive fat pad sign but no fracture</td>
<td>Retrospective observational study</td>
<td>Detection of clinically significant fracture at 14 day appointment, Change in clinical management</td>
<td>2 of 31 patients at follow up x ray showed clinically insignificant undisplaced fractures of the radial head, No change</td>
<td>15 patients were lost to follow up and 3 patients were not re x rayed at follow up, The reported 6% new fracture rate at follow up may be as high as 30% (worst case scenario)</td>
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