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>
<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>
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</thead>
<tbody>
<tr>
<td>Smith and Lee, 1978, UK¹</td>
<td>88 consecutive emergency department patients of all ages with elbow trauma</td>
<td>Prospective observational study</td>
<td>Detection of fractures at elbow joint on x-ray (inpatients with tenderness at weekly review)</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</td>
<td>Small number of patients (14) with positive fat pad sign and no initial fracture</td>
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<td></td>
<td>28 patients with positive fat pad sign, age young and old, A&amp;E patients</td>
<td></td>
<td>Change in clinical management</td>
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<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</td>
<td>2 of 31 patients at follow up x-ray showed clinically insignificant undisplaced fractures of the radial head</td>
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Steroids in De Quervain’s tenosynovitis

Report by Andy Jones, Specialist Registrar
Search checked by Simon Carley, Clinical Fellow

Clinical scenario
A 32 year old female office worker presents to the emergency department with a three day history of a painful wrist. She works as an office temp and is therefore keen to return to work as soon as possible. You want to know whether using steroid injection has any advantage over your normal practice of prescribing oral non-steroidal anti-inflammatory drugs and splintage.

Three part question
In [young adults with a clinical diagnosis of De Quervain’s tenosynovitis] is [local steroid injection better than simple rest and analgesia] at [decreasing pain and reducing duration of symptoms]?

Search strategy
Medline 1966 to 06/98 using the OVID interface. [(exp elbow OR exp elbow joint OR elbow OR fat pad OR radial head OR radial fractures OR effusion OR haemarthrosis OR hemorrhage OR haemarthrosis OR haemorrhage)] LIMIT to human and English language.

Outcomes
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<td>Weiss et al, 1994, USA</td>
<td>87 patients (93 wrists) with active disease, mean duration of symptoms 7 months</td>
<td>Controlled trial</td>
<td>Symptoms and signs at 3–4 weeks and then as required</td>
<td>Injection only group (27/42) did better than splint only group (7/37) (p&lt;0.001)</td>
<td>Not a randomised trial and no power study</td>
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Comment
It appears that a high proportion of patients with a positive elbow fat pad sign may be subsequently shown to have minor bony trauma. Most studies do not report on the clinical significance of missed fractures. Those that do (reported here) have found no clinically significant fractures at follow up. A larger prospective study with more robust follow up is required.

Clinical bottom line
There is no evidence to support routine repeat radiography of the elbow in patients with a positive elbow fat pad sign but no fracture.