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>
</tr>
<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>
</tr>
</tbody>
</table>

Search strategy
Medline 1966 to 06/98 using the OVID interface. (exp elbow OR exp elbow joint OR elbow$ ti.ab.rw.sh OR exp radial fractures OR radial head ti.ab.rw.sh) AND (fat pad$ ti.a-b.rw.sh OR effusion$ ti.ab.rw.sh OR exp haemarthrosis OR haemarthrosis ti.ab.rw.sh) LIMIT to human and english language.

Search outcome
Altogether 117 papers found of which 115 were irrelevant to the study question or of insufficient quality for inclusion; the remaining papers are shown in table 1.

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.

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 tenosynovitis OR tenosynovitis ti.ab.sh) AND (de quervain ti.ab.sh OR de quervains ti.ab.sh OR exp wrist OR wrist ti.ab.sh)] AND [exp steroids OR steroids ti.ab.sh OR exp adrenal cortex hormones OR corticosteroids ti.ab.sh] AND maximally sensitive RCT filter.

Search outcome
Thirty two papers found of which 29 irrelevant and two of insufficient quality for inclusion; the remaining paper is shown in table 2.

Comment
No good evidence exists to answer our clinical scenario. The only evidence comes from a study on chronic De Quervain's—the relevance to acute symptoms presenting to emergency departments is not clear. A randomised controlled trial comparing outcomes in patients presenting in the acute stages of the disease is needed.

Clinical bottom line
There is no direct evidence to support the use of steroid injections in acute De Quervain's tenosynovitis.  


Steroids in De Quervain's tenosynovitis

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<tr>
<td>Weiss et al, 1994, USA¹</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>
</tr>
</tbody>
</table>

¹ The patients are suffering chronic rather than acute symptoms
Towards evidence based emergency medicine: best BETs from the Manchester Royal Infirmary. Follow up of a positive elbow fat sign.
A Gorzack

doi: 10.1136/emj.15.6.380-a

Updated information and services can be found at:
http://emj.bmj.com/content/15/6/380.2.citation

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