BEST EVIDENCE TOPIC REPORTS

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.¹ Each BET has been constructed in the four stages that have been described elsewhere.² The four topics covered in this issue of the journal are:

- Needle aspiration or chest drain for spontaneous pneumothorax
- Oral or intravenous steroids in acute severe asthma
- The role of therapeutic needle aspiration in radial head fractures
- The role of diagnostic needle aspiration in olecranon bursitis

1 Carley SD, Mackway-Jones K, Jones A, *et al.* Moving towards evidence based emergency medicine: use of a structured critical appraisal journal club. *J Accid Emerg Med* 1998;15:220–2.

2 Mackway-Jones K, Carley SD, Morton RJ, *et al.* The best evidence topic report: a modified CAT for summarising the available evidence in emergency medicine. *J Accid Emerg Med* 1998;15:222–6.

Needle aspiration or chest drain for spontaneous pneumothorax

Report by Ashes Mukerjee, *Research Fellow*
Search checked by Kevin Mackway-Jones, *Consultant*

Clinical scenario

A 25 year old patient with no history of respiratory disease attends the emergency department with acute onset of shortness of breath. A chest radiograph reveals a left sided pneumothorax of approximately 50% the volume of the left lung; there is no tension. You wonder whether needle aspiration or chest drain insertion is the treatment of choice.

Three part question

In [a young patient with a spontaneous pneumothorax without tension] is [needle aspiration or chest drainage] better at [reinflating the lung, reducing hospital stay and preventing recurrence]?

Search strategy

Medline 1966 to 3/99 using the OVID interface. ({exp pneumothorax OR pneumothorax\$} AND {exp aspiration OR aspiration.mp OR thoracocentesis.mp} AND {exp chest tubes OR drainage OR exp thoracostomy OR chest drain\$.mp}) LIMIT to human and english language.

Department of
Emergency Medicine,
Manchester Royal
Infirmary, Oxford
Road, Manchester
M13 9WL

Correspondence to:
Kevin Mackway-Jones,
Consultant (e-mail:
kmackway@fs1.mci.man.
ac.uk).

Table 1

Author, date, and country	Patient group	Study type (level of evidence)	Outcomes	Key results	Study weaknesses
Harvey and Prescott, 1995, UK ¹	73 patients with spontaneous pneumothorax Needle aspiration (35) v intercostal drain (38)	PRCT	Success rate Pain score during procedure Hospital stay Recurrence rate	80% v 100% No significant difference 3.2 v 5.3 days (p=0.005) No significant difference	Small numbers Large differences in groups at baseline in terms of size of pneumothorax (34% v 58% complete collapse)
Andrivet <i>et al</i> , 1995, France ²	61 patients with first or second episode of spontaneous pneumothorax Needle aspiration (33) v thoracic drainage (28)	RCT	Success rate Hospital stay Recurrence rate by 3 months	61% v 93% (p=0.01) No significant difference No significant difference	Small numbers Hospital stay prolonged in needle aspiration group as procedure not carried out for 72 h in most patients

(P)RCT = (prospective) randomised controlled trial.