

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 are:

- Admission of isolated sternal fractures for observation
- Management of household electrical injury
- Steroid delivery in croup
- Haematoma block versus intravenous regional anaesthesia in Colles' fracture

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.

Admission of isolated sternal fracture for observation

Report by Andy Jones, *senior registrar*
 Search checked by Wendy Dollery, *senior registrar*

Clinical scenario

A 30 year old man presents having been involved in a front end collision while driving a car at 40 mph. He is found to have sternal tenderness and an x ray reveals a fracture. There are no other significant injuries.

Three part question

In an [adult with an isolated sternal fractures following a road traffic accident] is [routine admission] warranted to [detect possible cardiac events].

Search strategy

Medline 1966 to 12/97 using the OVID interface. ({[exp accidents traffic OR traffic ti,ab,sh] AND [exp sternum OR sternum. ti,ab,sh] AND [exp fractures OR fractures. ti,ab,sh]} LIMIT to [human AND english language])

Table 1

Author, date, and country	Patient group	Study type (level of evidence)	Outcomes	Key results	Study weaknesses
Brookes <i>et al.</i> , 1993, Australia ¹	272 fractures over 6.5 years, 124 isolated fractures, 93% from RTAs	Retrospective view	Accident details fracture grade, cardiac sequelae	Isolated fracture minimal complications, arrhythmias seen with age > 65, IHD, digoxin	Possible missed fractures, data retrospective
Hills <i>et al.</i> , 1993, Australia ²	172 fractures over 6.5 years, 89% from RTAs	Prospective cohort study	Associated injuries	No clear association with intrathoracic injury. Slight increase in thoracic spine injury	Data collection uncertain, no uniform cardiac screen
Bu'Lock <i>et al.</i> , 1994, UK ³	63 patients with central chest trauma, 45 seat belt related	Prospective cohort study	ECG findings and cardiac enzymes, echocardiography	None of these needed treatment and no adverse effects - ECG and enzymes correlated poorly with these findings, 25% of isolated seat belt injuries had pericardial effusion	Small numbers, not all had fractures

ECG=electrocardiography; IHD=ischaemic heart disease; RTAs=road traffic accidents.

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