BEST EVIDENCE TOPIC REPORTS

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

Edited by Bernard A Foëx

Emerg Med J 2007;**24**:217–219. doi: 10.1136/emj.2007.046805

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 practicing clinicians. The search strategies used to find the best evidence are reported in detail in order to allow clinicians to update searches whenever necessary. Each BET is based on a clinical scenario and ends with a clinical bottom line which indicates, in the light of the evidence found, what the reporting clinician would do if faced with the same scenario again.

The BETs published below were first reported at the Critical Appraisal Journal Club at the Manchester Royal Infirmary¹ or placed on the BestBETs website. Each BET has been constructed in the four stages that have been described elsewhere.² The BETs shown here together with those published previously and those currently under construction can be seen at <http://www.bestbets.org>.³ Three BETs are included in this issue of the journal.

- ▶ Conservative management or suturing for small, uncomplicated hand wounds
- ▶ Prophylactic antibiotics are not indicated in uncomplicated hand lacerations
- ▶ C Reactive Protein and the diagnosis of intracranial infection

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 Bernard A Foëx 222.

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**:222–226.

Mackway-Jones K, Carley SD. bestbets.org: Odds on favourite for evidence in emergency medicine reaches the worldwide web. *J Accid Emerg Med* 2000;**17**:235–6.

presented a trial addressing the clinical question. The author, date and country of publication, patient group studied, study type, relevant outcomes, results and study weaknesses of this paper are tabulated. The clinical bottom line is that there doesn't appear to be any great advantage to suturing. The importance of clinical evaluation, to ensure that the wound really is uncomplicated, is stressed.

Three part question

In [small, uncomplicated hand wounds] does [conservative management or suturing] result in [less pain, shorter duration of treatment, more rapid return to normal activities, less infection, better cosmetic appearance]?

Clinical scenario

A patient attends the emergency department with a small and uncomplicated hand wound (no fracture, foreign body, tendon injury, bone injury, joint injury, or neurovascular injury). You wonder whether there is any evidence to support suturing the wound over conservative management.

Search strategy

Medline 1950- January 2007 using the OVID interface

Cochrane Database of Systematic Reviews January 2007

[(exp Hand Injuries/or hand laceration\$.mp.) OR (hand wound\$.mp.)] AND [(exp Sutures/or suture\$.mp.) OR (exp Suture Techniques/or wound closure.mp.)], limit to humans and english language.

Search outcome

Altogether 413 articles were found. By limiting the search to include only clinical trials the number of articles was reduced to 27. Only one addressed the question. Searching Cochrane did not add to this.

Comment(s)

This is the only study that addresses the issue of conservative management versus suturing for small (<2cm), uncomplicated hand lacerations. It showed that there was no difference in cosmetic appearance or time to return to normal activities between the two groups. It also suggested that conservative management was less painful and had a shorter treatment time than suturing. However, it is important to be sure that the wound is uncomplicated and to realise that it has been reported that up to 49% of forearm and hand lacerations result in deep subclinical injury (1), that junior emergency department staff miss up to 36% of tendon injuries on clinical grounds and that even hand surgeons miss 16% (2). Therefore if there is any doubt one should have a low threshold for making a referral to the local hand surgeon for consideration of exploration under anaesthesia.

Conservative management or suturing for small, uncomplicated hand wounds

Report by Shafic Said Al-Nammari, *Accident and emergency SHO*

Search checked by A J Quyn, *Accident and emergency SHO*

Glasgow Royal Infirmary

doi: 10.1136/emj.2007.046813

Abstract

A short cut review was carried out to establish whether suturing provided any advantage over conservative management for small, uncomplicated hand wounds. Only one paper

Table 1

Author, date and country	Patient group	Study type (level of evidence)	Outcomes	Key results	Study weaknesses
Quinn J, 2002, USA	91 patients with 95 lacerations enrolled. Criteria for inclusion: full thickness hand laceration, <2cm, uncomplicated (ie no tendon, vascular, joint, nail bed, nerve involvement or fractures), presentation within 8 hours of injury, haemostasis achieved within 15 minutes of presentation and no complications from diabetes, anticoagulants or steroids.	RCT	Cosmetic appearance after 3 months Duration of treatment Pain during treatment Time to resume normal activities.	No significant difference in cosmetic appearance. Conservative management led to shorter duration of treatment (NOT statistically significant). Conservative management led to less pain (NOT statistically significant). Mean time to resume normal activities the same in both groups.	Small study. No differentiation between location of the wounds on the hand made; in particular palm vs finger and dorsal vs volar. Concerns over correct use of wound nomenclature. Were these "lacerations" actually incisions?

RCT, randomised clinical trial

► CLINICAL BOTTOM LINE

Uncomplicated hand lacerations less than 2cm should be treated conservatively.

BET editor's comment

The paper by Quinn *et al* attracted a flurry of correspondence. Much of it focused on the need for a proper evaluation of these wounds by a competent person.

Patel J, Coull R, Harris PA, *et al*. Hand lacerations: An audit of clinical examination. *The Journal of Hand Surgery: Journal of the British Society for Surgery of the Hand* August 1998;**23**(Issue 4):482–484.

McNicholl BP, Martin J, McAleese P. Subclinical injuries in lacerations to the forearm and hand. *British Journal of Surgery* 1992 Aug;**79**(8):765–7.

Quinn J, Cummings S, Callahan M, *et al*. Suturing versus conservative management of lacerations of the hand: randomised controlled trial. *BMJ* 2002;**325**(7539):299.

foreign body, tendon injury, bone injury, joint injury, or neurovascular injury.

Search strategy

OID interface on the world wide web. 1966–January 2007

Cochrane Database of Systematic Reviews, January 2007

[(hand wound\$.mp.) OR (hand laceration\$.mp.) OR (hand injury.mp. or exp Hand Injuries)] AND [antibiotic\$.mp. or exp Anti-Bacterial Agents/]

Search outcome

Altogether 346 articles were found. Limiting it to "humans and English language" reduced the number to 237. Only five papers directly addressed the question. No additional papers were found in Cochrane.

Comment(s)

These studies do not show any statistically significant difference in wound infection rates in uncomplicated hand lacerations in patients receiving either prophylactic antibiotics or not receiving antibiotics.

► CLINICAL BOTTOM LINE

No evidence to suggest prophylactic antibiotics reduce the rate wound infection in uncomplicated hand lacerations.

BET editor's comment

Antibiotics would not normally be given IM now.

Grossman JAI, Adams JP, Kunec J. Prophylactic Antibiotics in Simple Hand Lacerations. *JAMA* 1981 March 13;**245**(10):1055–6.

Haughey RE, Lammers RL, Wagner DK. Use of antibiotics in the initial management of soft tissue hand wounds. *Annals of Emergency Medicine* 1981 April;**10**(4):187–192.

Roberts AHN, Teddy PJ. A Prospective Trial of Prophylactic Antibiotics in Hand Lacerations. *British Journal of Surgery* 1977 Jun;**64**(6):394–6.

Beesley JR, Bowden G, Hardy RH, *et al*. Prophylactic antibiotics in minor hand injuries. *Injury* 1975 May;**6**(4):366.

Whittaker JP, Nancarrow JD, Sterne GD. The role of antibiotic prophylaxis in clean incised hand injuries: a prospective randomized placebo controlled double blind trial. *J Hand Surg [Br]* 2005 May;**30**(2):162–7.

Prophylactic antibiotics are not indicated in uncomplicated hand lacerations

Report by Shafic S Al-Nammari, *SHO Orthopaedics and Trauma*

Search checked by Adam J Reid, *SHO Plastic Surgery St Thomas' Hospital & Aberdeen Royal Infirmary*

doi: 10.1136/emj.2007.046821

Abstract

A short cut review was carried out to establish whether prophylactic antibiotics should be used as part of the management of uncomplicated hand lacerations. From a search of 237 papers only five presented trials addressing the clinical question. The author, date and country of publication, patient group studied, study type, relevant outcomes, results and study weaknesses of this paper are tabulated. The clinical bottom line is that there doesn't appear to be any evidence to support the use of prophylactic antibiotics in uncomplicated hand lacerations.

Three part question

In [a patient with an uncomplicated hand laceration] does [the use of prophylactic antibiotics] lead to a [reduced incidence of wound infection]?

Clinical scenario

A patient attends the emergency department with an 'uncomplicated' hand laceration. You wonder whether prophylactic antibiotics are indicated to try to reduce the risk of infection. 'Uncomplicated' is taken to mean a wound with no fracture,

C Reactive Protein and the diagnosis of intracranial infection

Report by Amy Au-Yong, *Medical Student*

Search checked by Professor Tim Coats, *Professor of Emergency Medicine*

Emergency Department, Leicester Royal Infirmary

doi: 10.1136/emj.2007.046839