BEST EVIDENCE TOPIC REPORTS

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

Edited by Simon D Carley

Emerg Med J 2006;23:219–225. doi: 10.1136/emj.2006.034306

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 Infirmary[1] 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] 4 BETs are included in this issue of the journal.

- ▶ Clean catch or bag specimen in UTI in non toilet trained children?
- ▶ Intravenous Magnesium in shock-resistant tachyarrhythmias
- ▶ Intranasal naloxone in suspected opioid overdose
- ▶ Intravenous NSAID's in the Management of Renal Colic

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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;15:220–222.

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](http://www.bestbets.org): Odds on favourite for evidence in emergency medicine reaches the worldwide web. *J Accid Emerg Med* 2000;17:235–6.

Clean catch or bag specimen in UTI in non toilet trained children?

Report by Rachel Jenner, *Specialist Registrar*

Search checked by Shadi Afzalnia, *Medical Student*

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doi: 10.1136/emj.2006.034314

A short cut review was carried out to establish whether bagged specimens of urine in children are more likely to be contaminated than clean catch specimens. 316 papers were found, of which two presented the best evidence to answer the clinical question. The author, date and country of

publication, patient group studied, study type, relevant outcomes, results, and study weaknesses of these best papers are tabulated. The clinical bottom line is that clean catch is a better non-invasive method of obtaining a urine specimen, compared with bag urine, in non-toilet trained children.

Three part question

In a [non toilet-trained child with suspected UTI] is [clean catch or bag specimen of urine] better at [reducing the risk of contamination and therefore providing an accurate diagnosis of UTI]?

Clinical scenario

An 18 month old child with fever and vomiting is brought to the emergency department by its parents. There is no clear focus of infection on clinical examination and you suspect the child has a urinary tract infection. You wonder if a bag specimen of urine or clean catch specimen would be more accurate in diagnosing UTI.

Search strategy

Using Medline database 1966 to week 3 November 2005 via OVID.

The Cochrane Library 2005, Issue 4.

CinAHL: CINAHL 1982 to December 2005.

Search details

Medline: [uti.mp OR exp Urinary Tract Infections] AND [specimen.mp OR exp Specimen Handling/OR urine bag.mp OR clean catch.mp] AND [BestBETS paediatric filter] LIMIT to human and English language.

Cochrane: urinary and specimen and catch.

CinAHL: [specimen.mp OR exp Specimen Handling/ OR urine bag.mp OR clean catch.mp]

Search outcome

Medline: 337 papers were found of which 2 were relevant. Cochrane: 17 citations. no new papers found. CinAHL: 100 citations. no new papers found

Comments

There is much debate in the literature about the best technique for collecting urine specimens in children, however little evidence comparing the two methods commonly used in Emergency Departments. Alam *et al* reveals that clean catch is a better method of obtaining a urine specimen than bag urine, however, both techniques are not 100% sterile and free of contamination, and therefore can produce misleading results. Other methods of obtaining a sterile specimen of urine in non-toilet trained children should be researched, such as supra-pubic aspiration or catheterisation. One concern may be that the clean catch specimen is seemingly more difficult to collect (an increased miss rate in the Alam study) and this may present problems in the emergency department setting.