

► **CLINICAL BOTTOM LINE**

Based on the current available evidence, blisters should, wherever possible, be left intact to reduce the risk of infection, but if anatomical position necessitates intervention for functional purposes, aspiration appears to result in less pain than deroofing.

1 Swain AH, Azadian BS, Wakeley CJ, et al. Management of blisters in minor burns. *Br Med J (Clin Res Ed)* 1987;295:181.

# Prophylactic antibiotics in urinary catheterisation to prevent infection

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A short cut review was carried out to establish whether prophylactic antibiotics reduced the incidence of urinary tract infection in patients requiring urinary catheterisation for acute urinary retention. In total, 104 papers were found in Medline, 81 in Embase and 2 in the Cochrane database using the reported searches, of which 1 presented the best evidence to answer the clinical question. The authors, date and country of publication, patient group studied, study type, relevant outcomes, results and study weaknesses of this best paper are tabulated. It is concluded that the evidence of benefit is too poor to recommend routine use of prophylactic antibiotics in the emergency department.

**Clinical scenario**

A 70 year old gentleman presents to the emergency department in acute urinary retention. You decide to catheterise him. Your senior house officer tells you that when he was in a Urology department it was standard practice to give systemic antibiotics to any patient catheterised post operatively. You wonder whether the patient in front of you needs them.

**Three part question**

In [patients requiring urinary catheterisation for acute urinary retention] are [prophylactic antibiotics better than

no antibiotics] at [reducing the incidence of urinary tract infection]?

**Search strategy**

Ovid MEDLINE 1966 to May week 1 2006, EMBASE 1980 to 2006 week 19 using multifile searching: [urinary catheter.mp OR urinary catheterization.exp OR exp.catheterization] AND [infection.exp] AND [prophylaxis.mp OR antibiotic, prophylaxis.exp] AND [urin\$] LIMIT human, English, abstracts

The Cochrane Library Issue 2 2006: urinary catheterization [MeSH] AND (antibiotic prophylaxis [MeSH] OR prophyla\* [title, abstract, keywords])

**Outcome**

There were 104 papers identified in Medline, 81 in Embase and 2 in Cochrane. One paper was a systematic review that was relevant.

**Comments**

Many papers were found in the search that examined the use of antibiotics for the prophylaxis of urinary instrumentation during surgery, or in the management of patients with long term problems requiring intermittent catheterisation. Such patients are very different from those found in the emergency department. Similarly, epidemiological papers looking at incidence of infection in hospitalised patients show lower levels of infection in those taking antibiotics for other reasons. No papers directly addressed the issue of the patient presenting to the emergency department.

The paper presented suggests a role for antibiotics but only in patients requiring medium term catheterisation. Another consideration is the potential for the development of bacterial resistance in the patient and in the general population.

The evidence for catheterisation in the emergency patient described is far from conclusive and cannot be routinely recommended. However, there will be high risk patients in whom it may be appropriate.

► **CLINICAL BOTTOM LINE**

There is insufficient evidence to recommend the routine use of prophylactic antibiotics in the management of acute urinary retention presenting to the emergency department.

1 Niel-Weise BS, van den Broek PJ. Antibiotic policies for short-term catheter bladder drainage in adults. *Cochrane Database Syst Rev* 2005;3:CD005428.

**Table 3**

Author, country, date	Patient group	Study type	Outcomes	Key results	Study weaknesses
Niel-Weise, BS, van den Broek PJ, Netherlands, 2005	Three trials of hospitalised adults undergoing non-urological surgery who had postoperative bladder drainage	Systematic review	Antibiotic prophylaxis compared with giving antibiotics when clinically indicated. Antibiotic prophylaxis compared with giving antibiotics when microbiologically indicated	Only 1 relevant paper: significantly lower symptomatic UTI rate in the group receiving prophylactic antibiotics (RR 0.20, 95% CI 0.06 to 0.66). Five to eight fold fewer cases of bacteriuria amongst those allocated prophylactic antibiotics	Observation based on only 16 cases of infection in women in one small trial. Data too heterogeneous to allow meta-analysis

UTI, urinary tract infection.