

## **Indwelling urethral catheterization or suprapubic catheterization or intermittent catheterization?**

The following questions were answered by a systematic review of the literature:

- 1) Is indwelling urethral catheterization superior to suprapubic catheterization in the prevention of urinary tract infections?
- 2) Is indwelling urethral catheterization superior to intermittent catheterization in the prevention of urinary tract infections?
- 3) Is suprapubic catheterization superior to intermittent catheterization in the prevention of urinary tract infections?

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Urinary catheter policies for short-term bladder drainage in adults

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Abstract

### Background

Indwelling urinary catheters are often used for bladder drainage during hospital care. Urinary tract infection is a common complication. Other issues that should be considered when choosing an approach to catheterisation are patients' comfort, other complications/adverse effects, and costs.

### Objectives

To determine the advantages and disadvantages of alternative approaches to catheterisation for short-term bladder drainage in adults.

### Search strategy

We searched the Cochrane Incontinence Group Specialised Register (searched 20 December 2004). Additionally, we examined all reference lists of identified trials.

### Selection criteria

All randomised and quasi-randomised trials comparing catheter route of insertion for adults catheterised for up to 14 days.

### Data collection and analysis

Data were extracted by both reviewers independently and compared. Disagreements were resolved by discussion. Data were processed as described in the Cochrane Handbook. If the data in trials had not been fully reported, clarification was sought directly from the authors.

## Main results

Seventeen parallel-group randomised controlled trials met the inclusion criteria.

Fourteen trials compared indwelling urethral catheterisation with suprapubic catheterisation. Groups managed with an indwelling catheter had more cases of bacteriuria (RR 2.60; 95%CI 2.12 to 3.18), more frequent recatheterisation (RR 4.12; 95%CI 2.94 to 7.56), and more people with discomfort (RR 2.98; 95%CI 2.31 to 3.85). There were no reports of complications during insertion, although not all trials stated this explicitly.

Three trials compared indwelling urethral catheterisation with intermittent catheterisation. In the two trials with data, there were fewer cases of bacteriuria in the intermittent catheterisation group (RR 2.90; 95%CI 1.44 to 5.84). Costs analyses reported in two trials favoured the indwelling group.

## Authors' conclusions

There was evidence that suprapubic catheters have advantages over indwelling catheters in respect of bacteriuria, recatheterisation and discomfort. The clinical significance of bacteriuria was uncertain, however, and there was no information about possible complications or adverse effects during catheter insertion.

There was more limited evidence that the use of intermittent catheterisation was also associated with a lower risk of bacteriuria than indwelling urethral catheterisation, but might be more costly. Using intermittent catheterisation postoperatively limits catheterisation to those people who definitely need it.