Randomised study of sterile versus non-sterile urethral catheterisation
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Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

Health technology
Perioperative sterile urethral catheterisation.

Type of intervention
Primary prevention.

Economic study type
Cost-effectiveness analysis.

Study population
General surgical patients, male and female, with a mean age of 66.8 years (age range 22 to 91 years).

Setting
The setting was a hospital. The economic study was carried out in Kent, UK.

Dates to which data relate
Not specified by authors.

Source of effectiveness data
Derived from a single study.

Link between effectiveness and cost data
Cost and effectiveness data referred to the same patient data. Costing was undertaken prospectively.

Study sample
The sample size was 156 consecutive general surgical patients. No power calculations were undertaken to determine sample size. Of these 156 patients, 74 were assigned randomly to the sterile catheterisation study group and 82 to the non-sterile catheterisation group.

Study design
Randomised control trial (RCT). Patients were randomly assigned to both intervention and comparator groups through the toss of a coin. No follow up period was specified.

Analysis of effectiveness
Based on intention to treat. The health outcome was reduced incidence of UTI. The two random groups were similar in age, sex, type of operation, and severity of illness.

**Effectiveness results**
7 patients (9.5%) in the sterile catheterisation group developed UTI during the perioperative period. 9 (11%) of the patients in the non-sterile catheterisation group developed UTI. This difference was not significant (p>0.1).

**Clinical conclusions**
The technique of catheter insertion did not affect incidence of UTI in the perioperative period for general surgical patients.

**Measure of benefits used in the economic analysis**
Since the clinical analysis showed no difference in effectiveness/clinical benefit between the intervention and comparator, the economic analysis was based on the difference in costs only.

**Direct costs**
Costs and quantities were analysed separately. The approximate unit costs per sterile and non-sterile catheter insertion were estimated based on information provided by two NHS trust hospitals. The direct costs were those of the necessary supplies and equipment needed to perform catheterisation. No dates referring to price data were specified.

**Currency**
UK pounds sterling (£).

**Sensitivity analysis**
No sensitivity analysis was performed.

**Estimated benefits used in the economic analysis**
Not applicable.

**Cost results**
The total cost per catheterisation performed were 7.49 in the sterile catheterisation study group and 3.06 in the non-sterile catheterisation group. Thus the incremental cost of sterile catheterisation was 4.43.

**Synthesis of costs and benefits**
Since effectiveness was the same in the intervention and comparator groups, a cost-minimisation criterion established non-sterile catheterisation as a more efficient resource allocation than sterile catheterisation.

**Authors' conclusions**
The technique of urethral catheterisation did not affect the incidence of UTI during the perioperative period in general surgery patients. As sterile catheterisation was more than twice as expensive as non-sterile catheterisation, non-sterile catheterisation was more cost-effective than sterile catheterisation. These results were not necessarily valid for patients whose catheter was left in situ for longer than the perioperative period.
The authors failed to specify the dates to which effectiveness and cost data related, which prevents comparison with other studies. Even though approximate costs were estimated, no sensitivity analysis was included to allow for uncertainty in the measurement of cost data. Total costs of catheterisation procedures were not fully specified. The authors based their information on data given by two hospitals, but did not mention the method used to arrive at a common measure of costs given data from two different settings. Total direct hospital costs might have been underestimated. No measure of the cost of professionals’ time employed in the catheterisation procedures was made.

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