Tubeless percutaneous renal surgery
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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
Tubeless percutaneous renal surgery.

Type of intervention
Treatment.

Economic study type
Cost-effectiveness analysis.

Study population
Patients undergoing percutaneous renal procedures, consisting of nephrolithotripsy, endopyelotomy, and stone extraction plus endopyelotomy.

Setting
Tertiary care. The economic study was carried out at the Department of Urology, Kaiser Permanente, Los Angeles, California.

Dates to which data relate
Effectiveness data were collected between 1 December 1995 and 1 March 1996. Cost dates were not explicitly stated, but appear to be related to the same period.

Source of effectiveness data
Effectiveness data were derived from a single study.

Link between effectiveness and cost data
Costing was undertaken retrospectively on the same patient sample as that used in the effectiveness analysis.

Study sample
A total of 50 patients underwent tubeless percutaneous renal procedures. This study group was compared to a control group of 50 patients (matched for age, sex and procedure) who had previously undergone standard percutaneous renal procedures with routine placement of postoperative nephrostomy tubes. Exclusion criteria were: a case lasting longer than 2 hours, more than 2 percutaneous accesses necessary, significant perforation of the collection system, significant residual stone burden, significant postoperative bleeding and resection of transitional cell carcinoma when installation of chemotherapy may be indicated.
Study design
Non-randomized trial with historical controls. Patients were followed up until they returned to their normal activities. The loss to follow-up was not reported.

Analysis of effectiveness
The basis of the analysis of effectiveness was not explicitly stated by the authors. The main health outcomes used in the analysis were: incidence of complications, analgesia requirements, interval to return to normal activities. The two groups were shown to be similar in respect of age, sex, height, weight, and type of percutaneous procedure.

Effectiveness results
All 50 tubeless percutaneous procedures were performed successfully without significant complications. The average parenteral or intramuscular analgesia requirements were 11.58 and 36.06 mg morphine sulphate, respectively (p=0.0001), with patients requiring oral analgesia for 5.9 and 11.7 days, respectively (p=0.0001). Patients in the study group returned to normal activities within 17.85 days versus 26.6 days for the controls ((p=0.0004).

Clinical conclusions
The modifications to the technique of percutaneous kidney surgery make it a less morbid procedure.

Measure of benefits used in the economic analysis
No single measure of benefit was produced within the economic evaluation.

Direct costs
Direct health services costs such as hospitalisation, operating and recovery room costs were considered. Fixed overhead and professional costs were not considered. Quantities and costs were not reported separately. The dates to which price data refer were not given.

Statistical analysis of costs
All p values were obtained from the log-rank test.

Indirect Costs
Not considered.

Currency
US dollars ($).

Estimated benefits used in the economic analysis
Not applicable.

Cost results
The average costs of the procedures were $1,638 (study group) and $3,750 (controls), a saving of $2,112 per case. Hospitalisation was 0.6 days for the study group and 4.6 days for the controls (p=0.0001).

Synthesis of costs and benefits
Not applicable.
**Authors' conclusions**

Tubeless percutaneous renal surgery is a safe procedure and offers numerous advantages over routine placement of a nephrostomy tube. The hospitalisation, analgesia requirements and return to normal activities, as well as cost, are significantly less with this new technique.

**CRD COMMENTARY - Selection of comparators**

The reason for the choice of the comparators (tubeless percutaneous renal procedure versus a conventional percutaneous renal procedure) is clear, both procedures being widely used in the authors' setting. You, as a user of this database, should consider if this is relevant to your own setting.

**Validity of estimate of measure of benefit**

Data do not appear to have been used selectively to prove a particular point and the choice of health outcomes is justified.

**Validity of estimate of costs**

Details of methods of quantity/cost estimation were given and no relevant cost items seemed to have been omitted. Comparisons were made with studies dealing with similar topics.

**Other issues**

Cost data may not be generalisable to other settings or countries.

**Source of funding**

None stated.

**Bibliographic details**


**PubMedID**

9112480

**Indexing Status**

Subject indexing assigned by NLM

**MeSH**

Female; Humans; Kidney /surgery; Male; Middle Aged; Nephrostomy, Percutaneous; Stents; Urinary Catheterization

**AccessionNumber**

21997000592

**Date bibliographic record published**

31/12/1998

**Date abstract record published**

31/12/1998