Systematic review of the literature on the effectiveness of surgery for stress incontinence in women

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Authors' objectives
To compare outcomes (effectiveness and complications) following different surgical procedures to treat stress incontinence in women.

Searching
MEDLINE was searched from 1966 to June 1995, EMBASE from 1980 to June 1995, the Science Citation Index from 1980 to June 1995, and BIDS BLII data service in 1995, using the search terms reported. Results of existing searches were sought from other groups. Additional material was obtained by contacting authors of published studies and experts in the field, and by examining references in published papers and abstracts presented at the annual general meeting of the American Urological Association (1993 to 1995).

Study selection
Study designs of evaluations included in the review
Randomised controlled trials (RCTs), non-randomised trials and prospective cohort studies. Retrospective cohort studies and case-control studies were included if they provided additional information.

Specific interventions included in the review
Surgical procedures for stress incontinence: colposuspension, anterior colporrhaphy or repair, needle suspension and slings.

Participants included in the review
Women with stress incontinence were included.

Outcomes assessed in the review
The proportion of patients cured (continent or dry) following surgery complications, e.g. haemorrhage, infection, dyspareunia and detrusor instability.

How were decisions on the relevance of primary studies made?
The authors do not state how the papers were selected for the review, or how many of the authors performed the selection.

Assessment of study quality
Studies are checked against a predetermined checklist for measuring study quality, assessing internal validity, power, external validity, and reporting (Appendix 1 of the report). The authors do not state how the papers were assessed for quality, or how many of the authors performed the quality assessment.

Data extraction
One author extracted the data.

Methods of synthesis
How were the studies combined?
A statistical meta-analysis was not used because of the variability across the studies.

How were differences between studies investigated?
The studies were grouped according to the surgical procedures and study designs.

**Results of the review**

Eleven RCTs, 20 non-randomised trials or prospective cohort studies, and 45 retrospective cohort studies were included.

Approximately 85% of women were continent one year after colposuspension, compared with 50 to 70% after anterior colporrhaphy (3 RCTs with 503 patients, and 11 non-randomised prospective studies with 1,478 patients) and 50 to 70% after needle suspension (2 RCTs with 519 patients, and 10 non-randomised studies with 935 patients).

No significant differences were found between colposuspension and sling procedures (4 prospective studies with 147 patients), or between anterior colporrhaphy and needle suspension (2 RCTs with 469 patients, and 5 non-randomised prospective studies with 831 patients).

Little reliable evidence is available to compare outcomes following anterior colporrhaphy and sling procedures (1 RCT, 26 patients), and to compare needle suspension and sling (1 RCT, 20 patients).

Different methods of performing colposuspension have not been shown to be associated with a significant difference in outcome (2 RCTs and 1 non-randomised prospective studies; 231 patients in total).

Different methods of performing sling procedures have not been adequately compared (1 prospective cohort study with 43 patients), whilst different methods of needle suspension have not been compared in any prospective study.

**Authors’ conclusions**

The methodological quality of studies reporting the effectiveness of surgery for stress incontinence is poor. The value of surgery and the relative effectiveness of different procedures is, therefore, unclear. It appears that colposuspension may be more effective and the effect more long lasting, than that for anterior colporrhaphy and needle suspension. Valid and reliable data on the frequency of complications following surgery are lacking. Second and subsequent operations to correct stress incontinence are less successful than initial procedures, but relevant studies have not taken confounding into account.

**CRD commentary**

The quality of the studies included has been assessed rigorously. The literature search is comprehensive.

**Bibliographic details**


**Other publications of related interest**


**Indexing Status**

Subject indexing assigned by CRD

**MeSH**

Laparoscopy /methods /instrumentation; Suture Techniques; Urinary Bladder /surgery; Urinary Incontinence, Stress /surgery; Vagina /surgery
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Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.