What type of urinary incontinence does this woman have?

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CRD summary
This review evaluated history, physical examination and office tests for distinguishing between stress and urge incontinence in women. The authors concluded that a systematic approach including history, examination and stress test increases the likelihood of a correct diagnosis. The conclusions are in line with the evidence presented, but methodological and reporting limitations make the reliability of the conclusions uncertain.

Authors' objectives
To review the evidence for the accuracy of different methods of determining the type of urinary incontinence during an office assessment in adults.

Searching
MEDLINE and EMBASE were searched for English language articles up to July 2007; the search terms were reported. Additional articles were identified by searching reference lists of retrieved articles.

Study selection
Studies of adults undergoing history, physical examination and/or office procedures (excluding urodynamics) for the diagnosis of type of urinary incontinence were eligible. Cohort studies were eligible and case-control studies were considered where insufficient data were available from cohort studies. The reference standard for categorisation of incontinence type was diagnosis confirmed by an expert, urodynamic studies, or both. The included studies assessed questionnaires and questions, stress test, Q-tip test, the Larsson frequency/volume chart nomogram, pad tests and overall clinical assessment. All of the included studies but one, which had 80% women, comprised 100% females.

Two reviewers independently assessed studies for inclusion. Any disagreements were resolved by discussion or by reference to a third reviewer if necessary.

Assessment of study quality
The authors stated that two independent reviewers assessed study quality, but no further details were reported.

Data extraction
Data from 2x2 tables were used to derive the likelihood ratios and their 95% confidence intervals (CIs) for the index test in each study. Study authors were contacted in an attempt to obtain missing outcome data.

Two reviewers independently extracted the data.

Methods of synthesis
Summary likelihood ratios (LRs) and tests of heterogeneity were calculated using a random-effects model (DerSimonian and Laird). No further details of the test for heterogeneity were reported. Differences between the studies were tabulated and discussed in the text. The authors did not state that they assessed publication bias.

Results of the review
Forty studies were included in the review. Sample sizes ranged from 25 to 4,500, but the total number of participants was unclear. All the studies for which designs were reported were cohort studies (prospective, retrospective or unclear).

History.

Simple questions were modestly useful (summary positive LR 2.2, 95% CI: 1.6, 3.2; negative LR 0.39, 95% CI: 0.25, 0.61) for diagnosing stress incontinence, based on 10 studies with significant heterogeneity. Questions were more helpful for diagnosing urge incontinence (summary positive LR 4.2, 95% CI: 2.3, 7.6; negative LR 0.48, 95% CI: 0.36,
0.62), based on 10 studies with some heterogeneity (all p<0.08).

Physical examination.

Based on 5 cohort studies, a positive stress test made stress incontinence more likely and a negative test less likely (summary positive LR 3.1, 95% CI: 1.7, 5.5; negative LR 0.36, 95% CI: 0.21, 0.6); heterogeneity was not statistically significant. A positive Q-tip test did not contribute to the diagnosis of stress incontinence, although a normal result decreased the likelihood of urge incontinence (2 studies). The pad test and Larsson nomogram were evaluated in one study each and were not considered to be useful.

Overall clinical assessment.

A systematic assessment combining history, clinical examination and bedside tests appeared to be of modest value for diagnosing stress incontinence (summary positive LR from 4 studies 3.7, 95% CI: 2.6, 5.2; negative LR 0.20, 95% CI: 0.08, 0.51); heterogeneity was significant for the negative LR. Two studies of urge incontinence indicated that the overall assessment is less valuable for diagnosing this condition (summary positive LR 2.2, 95% CI: 0.55, 8.7; negative LR 0.63, 95% CI: 0.34, 1.17); heterogeneity was significant for the positive LR.

Authors’ conclusions
A systematic approach that includes a history, physical examination and a stress test increases the likelihood of correctly classifying the type of urinary incontinence. The most useful feature for diagnosing urge incontinence is a history of urine loss associated with urgency. A bladder stress test may be helpful for diagnosing stress incontinence.

CRD commentary
This review addressed a clear question and had clear inclusion criteria for the participants, index and reference tests, and outcomes. The search was limited to two databases and reference lists, so it is possible that relevant studies could have been overlooked. Only English language papers were sought and no attempt was made to locate unpublished studies or assess publication bias; hence, the review could be at risk of language and/or publication bias. The study selection, validity assessment and data extraction processes were performed by two independent reviewers, thereby reducing the risk of errors or bias. The results of the validity assessment were not reported, so the reliability of the included studies is uncertain. Some relevant details of the included studies were presented. Studies were synthesised by calculating summary LRs. Significant statistical heterogeneity was present in some cases, which suggests that it may not have been appropriate to pool the studies. The authors’ conclusions are in line with the evidence presented, but the methodological and reporting limitations of the review make it difficult to be certain of the reliability of the conclusions.

Implications of the review for practice and research
Practice: The authors stated that it would be reasonable for physicians unable to perform a stress test in their office to refer patients for further investigation, if certainty of the diagnosis is important.

Research: The authors did not state any implications for research.

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Other publications of related interest
These additional published commentaries may also be of interest.


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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.