

Category No.

4

Video
Demonstration

Ref. No.

195

Abstract Reproduction Form B-1

Author(s):	ANNETTE DORFLINGER*, EMMA GORTON, STUART L. STANTON, WILLY HAENGGI AND EKKEHARD DREHER*
	Double Spacing
Institution	St. George's Hospital, London, Uk
City	*Universitätsfrauenklinik Bern
Country	
	Double Spacing
Title (type in CAPITAL LETTERS)	THE URETHRAL PRESSURE PROFILE: IS IT AFFECTED BY POSITION?

Aims of study

The most commonly measured values in urethral pressure profile are the maximum urethral closure pressure (MUCP) and the functional length (FUL). Whilst urethral pressure profilometry is normally performed in the sitting or supine position, leakage in stress incontinent women usually occurs in the standing position.

In some units the urethra profilometry may be routinely repeated in the standing position to obtain a more accurate assessment of urethral pressure. This is time consuming, unpleasant for the patient and sometimes technically difficult in handicapped elderly women.

The aim of the study was to determine if MUCP and FUL are affected by the patient's position.

Methods

Symptomatic women having urodynamics for investigation of lower urinary tract symptoms were asked to have urethral pressure profilometry performed in the sitting and standing position. In addition, volunteers from the medical staff and patients awaiting general gynaecology operations were recruited. Each woman had three measurements taken in each position and the MUCP and FUL were recorded.

One hundred women were recruited, two of them were unable to stand still for the standing profilometry leaving a total population of 98. Mean age was 51 years (range 27-82), median parity was 2 (range 0-6), mean weight was 70 kg (range 45-119), mean height was 1.61 m (range 1.45-1.83) and mean body mass index was 26.8 kg/m² (range 18-43).

A standard technique of urethral pressure measurement was used with the bladder filled to 200 ml with normal saline at room temperature. A Gaeltec 8 French microtip transducer with a puller speed of 1 mm per second was used with a Sedia@2000 urodynamic machine. The order of measurements was randomised using a computer generated random number sequence in blocks of 10. Statistical analysis was performed using SPSS for MS Windows release 6.1. Paired T-tests were used to compare sitting and standing values. Unpaired T-Tests were used to compare results between women with and without stress incontinence.

Results

Mean MUCP in the standing position was 63.6 cmH₂O compared with 59.7 cmH₂O sitting. The mean difference was 3.9 cmH₂O (95% CI -0.1 to 7.8) which was not statistically significant (paired t-test 0.057). There was a much greater difference in the sitting and standing MUCP when the standing one was performed first with a sitting MUCP of 57.8 cmH₂O and the standing 64.5 cmH₂O with a mean difference of 6.8 cmH₂O (95% CI 1.1 to 12.4). The results for FUL were more consistent: mean FUL standing was 39.6 mm, sitting was 34.5 mm with a mean difference of 5.2 (96% CI 3.1 to 7.3). There was no correlation between the difference in MUCP and previous stress incontinence surgery, age, parity, weight, height or BMI, oestrogen status or urodynamic diagnosis of DI.

Conclusions

Overall the measurements for urethral pressure profilometry were slightly higher in the standing position than in the sitting position, however, variability of the measurements made comparison difficult. The greater variability of the standing MUCP and FUL compared with sitting was probably related to technical difficulty of ensuring correct catheter orientation in the standing position. As the 95% CI for the percentage difference between standing and sitting MUCP and FUL both included zero we were unable to reject the null hypothesis that there is no difference between standing and sitting values. If there is a difference between sitting and standing MUCP it is small and of little clinical relevance.