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## Abstract Reproduction Form B-1

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**EFFECT OF SIZE 7FG URETHRAL CATHETER ON URINE  
FLOW RATES IN UROGYNAECOLOGY PATIENTS**

### AIMS OF STUDY:

Urethral catheters such as those used in filling and voiding cystometry have been thought to have a detrimental effect on urine flow (1,2,). Studies so far have not corrected urine flow rates for voided volumes. Clinical factors such as the presence of prolapse in urogynaecology patients have not yet been considered in such studies.

The aims of the study are to compare the urine flow rate data from "free" voiding study (no urethral catheter) with the equivalent data from voiding cystometry (7FG urethral catheter present) performed at the same urodynamic session.

### METHODS:

One hundred and eighty consecutive women, median age 57 years (range 17-88), referred for urogynaecological assessment including urodynamics because of symptoms of lower urinary tract dysfunction, were recruited for the study. After a comprehensive history, a full examination was performed. Separate assessments were made of the clinical grade of any uterine prolapse, cystocele, rectocele and enterocele with patients examined with bladder emptied, in the left lateral position and at maximal strain.

Each woman, having been encouraged to attend for the assessment with a comfortably full bladder, voided for free uroflowmetry in complete privacy over a Urodyn 1000 uroflowmeter. Voided volumes and maximum and average urine flow rate data were recorded and subsequently corrected for voided volume by conversion to urine flow rate centiles on published nomogram charts (3).

Subsequent testing included the insertion of a 7FG dual lumen urethral catheter prior to filling and voiding subtraction cystometry. Women who were unable to void on either occasion or those whose flow data was outside the 15-600mls interpretation range for data correction (4) were excluded leaving a final study group of 145 women.

### RESULTS:

Table 1 shows the uroflowmetry data for the initial "free" void (Void 1) and the voiding cystometry (Void 2) for the 145 symptomatic women. Figure 2 shows the effect of the presence/absence of different aspects of prolapse on the changes in the maximum urine flow rate centile data between the two voids.

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<b>TABLE 1:</b>	<b>VOID 1</b>	<b>VOID 2</b>
<b>MEAN VOIDED VOLUME</b>	152mls (Range: 16-600mls)	406mls (Range: 18-596mls)
<b>MEAN MAXIMUM URINE FLOW RATE CENTILE</b>	16.7 (Range: 2-50)	22.8 (Range: 2-58)
	p <0.001	
<b>MEAN AVERAGE URINE FLOW RATE CENTILE</b>	7.4 (Range: 1-28)	9.7 (Range: 1-33)
	p <0.001	

**TABLE 2 CHANGE IN MEAN CENTILE (+/- x Cnt) OF THE MAXIMUM URINE FLOW RATE ACCORDING TO TYPE AND GRADE OF GENITAL PROLAPSE**

GRADE	Cystocoele		Uterine		Rectocoele		Enterocoele	
	n	MUFR	n	MUFR	n	MUFR	n	MUFR
0	85	+4.9Cnt	94	+5.0Cnt	96	+5.3Cnt	129	+ 6.3Cnt
1	34	+6.9Cnt	37	+7.0Cnt	37	+8.0Cnt	9	+ 5.0Cnt
2/3	26	+8.6Cnt	14	+10.3Cnt	12	+5.4Cnt	7	+ 2.8Cnt
p		0.179		0.214		0.735		0.700

### CONCLUSIONS:

A 7FG urethral catheter is shown to have overall a mildly favourable effect rather than the expected detrimental effect on the urine flow rates of symptomatic women. The large difference in the mean voided volume emphasises the need to correct urine flow data for voided volume in such a study. Urine flow centiles in urogynaecology patients are confirmed as much lower than than normal (asymptomatic) female population (4).

An increasingly favourable effect is seen in the second voids of women with increasing grades of uterine prolapse and cystocoele. These forms of prolapse are known to be normally associated with an increasingly detrimental effect on urine flow (4). However with a fuller bladder, which has been shown to reduce uterine prolapse and cystocoele (5), there is a reduction of the detrimental effect of the prolapse and thus further improved urine flow even in the presence of the catheter. The reason for a favourable effect in women without prolapse might be postulated to be some "stenting" effect of catheter at higher volumes assisting urine flow.

### REFERENCES:

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- (4) Neurourol. Urodyn., 1995;14:417-419
- (5) Proc Int Cont Soc., 1993; Rome:310-311