

## Abstract Reproduction Form B-1

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BLADDER BLOOD FLOW, URODYNAMICS AND CONTINENCE  
IN PATIENTS UNDERGOING PROSTATECTOMY.

**Aims of study:** In vivo study of bladder blood flow (BBF) is feasible during surgery with laser doppler flowmetry (1). We evaluated if changes in BBF during prostatectomy were related to urodynamic or continence parameters.

**Methods:** A neon-helium flowmeter (BLF-10, Transonic Systems, Ithaca NY) was used to quantify BBF in tissue perfusion units (TPU; ml/min/100g tissue). Intraoperative measurement was undertaken in 40 male patients (pts): 18 pts undergoing open prostatectomy (OP) for benign disease and 22 pts undergoing radical retropubic prostatectomy (RRP). Four measurements during a stable reading were taken in each patient: two at the beginning of surgery (dome and anterior wall) and two in the same location after prostatic tissue removal. Preoperative urodynamic study (UDS) was performed in all pts (uroflowmetry, water cystometry and pressure-flow study). In 31, a 3 month follow-up UDS is available.

**Results: Preoperative UDS:** All but two patients undergoing OP had abnormal cystometry; either detrusor instability (DI) (4) or DI with low bladder compliance (12) and all were obstructed (except one in whom no detrusor contraction was shown on pressure-flow study). Pts undergoing RRP: all were continent but 52% had DI and 26% were obstructed. **BBF measurement:** prolonged surgery for an average of 17 minutes (14-23). Patients undergoing RRP had lower values of TPU compared to those undergoing OP. In both groups there was a similar decrease in BBF at the end of surgery, as shown in the table (values in TPU's).

	Open		Radical	
	Ant.	Dome	Ant.	Dome
Pre	9.07	7.01	12,74	11,85
Post	6.48	5.63	8,25	9,6

**Relation between BBF and continence:** at 3 month follow-up, 38 % of RRP patients were incontinent. This group had a greater decrease in BBF at the dome, a higher percentage of abnormal cystometry and more severe DI. Incontinence rate among OP patients was 11%, but no significant risk factors were found. Patients undergoing OP were divided according to the anesthetic technique used: a higher BBF was observed when general anesthesia was used compared to those under spinal anesthesia. Patients with low bladder compliance showed a greater decrease BBF (4.25 TPU's) compared to patients with low compliance and DI (1.07).

**Conclusions:** A higher rate of abnormal UDS than previously reported was found in pts undergoing RRP (2). A greater decrease at the dome's BBF is observed in incontinent pts on short follow-up. A decrease in BBF at the end of surgery is confirmed in all pts.

**References:** 1) J Urol 1996; 155:630-633. 2) J Urol 1995; 157:233-236.