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THE EFFECT OF PATIENT POSITION ON LEAK POINT PRESSURE IN WOMEN WITH GENUINE STRESS URINARY INCONTINENCE

Aims of Study To determine the quantitative and qualitative effects of patient position on cough and Valsalva leak point pressure measurements in women with genuine stress urinary incontinence.

Methods Twenty-three patients with genuine stress urinary incontinence underwent multichannel urodynamic evaluation using a standardized protocol Complex cystometry and voiding pressure studies were performed on all patients Detrusor instability was defined as a phasic rise in the detrusor pressure during the filling phase while the patient is attempting to inhibit micturition Leak point pressures were performed at a bladder volume of 250 ml in the supine, semirecumbent (45° incline), and standing positions using 8 Fr microtip transducer catheters placed in the bladder and vagina Leak point pressures (cough or Valsalva) were determined by measuring the increase in vesical pressure over resting vesical pressure at the instant urine leakage was observed from the external urethral meatus Three measurements were taken at each patient position and the lowest measurement was designated as the leak point pressure Static and dynamic urethral pressure profilometry was performed in the semirecumbent position at 250 ml Stress incontinence was defined as simultaneous, unsustained loss of urine with coughing or Valsalva in the absence of a detrusor contraction Patients excluded were those who did not leak urine with maneuvers, those with detrusor instability, interstitial cystitis, bladder compliance < 30 or > 60 ml/cm H_2O , and those with previous bladder augmentation or pelvic radiation therapy

Results The mean (range) age, and median (range) gravidity, parity, body mass index, and mean (range) Q-tip deflection angle were 63 years (45-76 years), 3 (1-6), 3 (1-6), 25 (22-30), and 57 8° (25°-80°) respectively. Four patients (17%) had previous incontinence surgery Sixteen patients (70%) were postmenopausal and all were taking hormone replacement Patients were more likely to leak in the semirecumbent and standing positions than in the supine position The mean (± standard deviation) Valsalva leak point pressures in the supine, semirecumbent, and standing positions were 83 ± 27 4 cm H_2O, 75 5 ± 30 7 cm H_2O, and 65 7 ± 27 1 cm H_2O respectively ($P <$ 001) The mean (± standard deviation) cough leak point pressures also declined as the patients were moved from the supine (101 4 ± 36 6 cm H_2O), to the semirecumbent (92.3 ± 30 2 cm H_2O), and standing positions (82.8 ± 29.9 cm H_2O) ($P <$ 001) Cough leak point pressures were significantly higher than Valsalva leak point pressures at each patient position The correlation between leak point pressure and maximum urethral closure pressure was statistically significant and was dependent upon patient position and maneuver used
(Figure 1)

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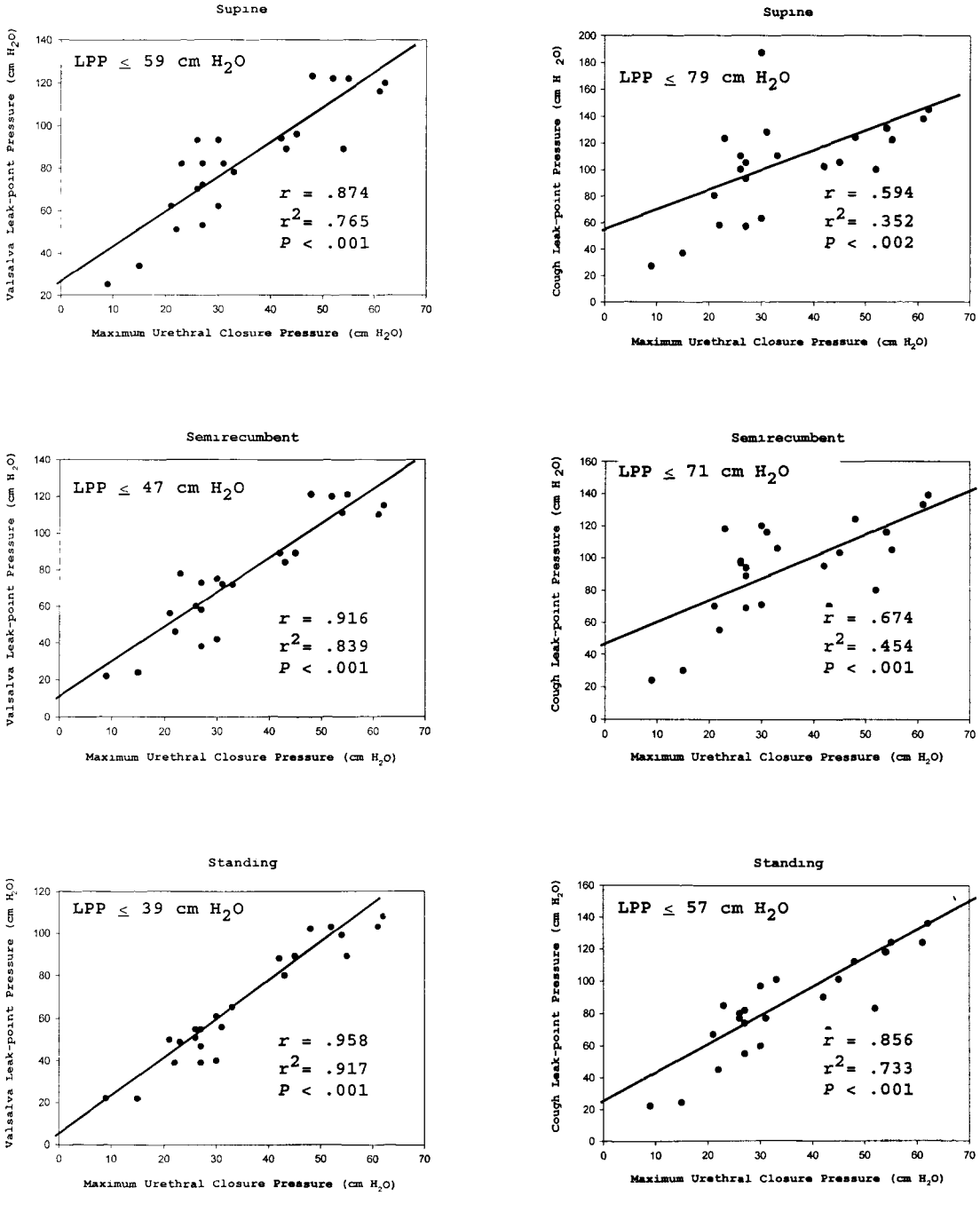
Figure 1 VALSALVA COUGH



Conclusion Leak point pressure and its correlation to maximum urethral closure pressure is dependent upon patient position and maneuver (cough or Valsalva) used.

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