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**Title:** THE "VALSALVOMETER"-A SIMPLE NON-INVASIVE METHOD FOR PRODUCING A STANDARDISED RISE IN INTRA-ABDOMINAL PRESSURE

**Aims of Study:**

Producing a reliable standardised rise in intra-abdominal and intravesical pressure is important when assessing the integrity of the urethral sphincter mechanism and function of the pelvic floor. Traditionally this has been done using intra-abdominal or intravesical pressure lines which allow accurate measurement of changes in intra-abdominal pressure. Insertion of pressure lines is, however, invasive and requires sophisticated urodynamic equipment. This may be undesirable particularly when evaluating the effects of conservative treatment or in a clinic setting.

We wished to devise a non-invasive method of producing a reliable and standardised increase in intra-abdominal pressure.

**Methods:**

32 women attending the urogynaecology department for urodynamic studies were asked to take part in the study. Urodynamics were performed according to our standard technique with fluid filled pressure lines in the bladder and rectum, zeroed to the level of the pubic symphysis. Filling was commenced to 250ml with the woman supine. At this point the women were asked to blow into an anaeroid, (not mercury), sphygmomanometer to produce sustained pressure rises of 25mm Hg (Val25) and then 50 mm Hg (Val50). Intra-abdominal and intra-vesical pressures, measured in cm H<sub>2</sub>O, were recorded at this point. Four older women were able to produce a valsalva of 25mmHg only. Results were analysed using SPSSv10.

**Results:**

Results are shown in table form below, for clarity only mean values are shown.

Intra –abdominal and intra-vesical pressures	N	Mean (cmH <sub>2</sub> O)	Std. Deviation
VAL25 Abdominal	32	32.0000	9.1898
VAL25 Vesical	32	31.0625	8.4202
VAL50 Abdominal	28	53.4643	6.5855
VAL50 Vesical	28	51.9286	6.5372

(Val25A- pressures with valsalva to 25mmHg, Val50 pressures at 50mmHg valsalva)

**Conclusions:**

This simple technique enables the production of a standardised increase in intravesical and intra-abdominal pressure without the need for invasive monitoring. Although not truly a Valsalva manoeuvre, (the glottis remains open), this technique does result in a consistent increase in intra-abdominal pressure. This is of use in assessing the response of the pelvic floor and bladder neck using ultrasound or MRI and with further standardisation would allow estimation of Valsalva leak point pressure without the need for formal urodynamics. This may be of use in a clinical setting or for following up patients postoperatively.