Ambulatory Diagnosis (*Diagnostic Group Code*).	n.	Mean (cm)	95% Confidence Intervals	
			Lower	Upper
Normal (*1.00)*	34	0.51	0.46	0.57
Genuine Stress Incontinence *(2.00)*	38	0.49	0.44	0.54
Detrusor Instability. *(3.00)*	19	0.61	0.55	0.66
Voiding Difficulties. *(4.00)*	1	-	-	-
Detrusor Instability and Urethral Sphincter Incompetence. *(7.00)*	25	0.55	0.48	0.63

representing genuine stress incontinence and detrusor instability indicating that a cut-off of 0.55 cm would be clinically significant for diagnostic purposes (**Figure 1**).

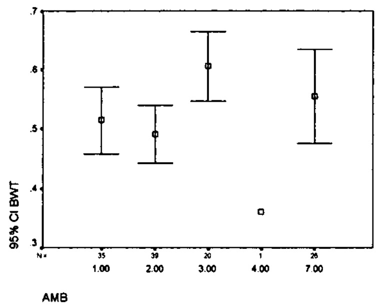

Figure 1. Bladder Wall Thickness; 95% Confidence Intervals. (Key as Table 1).

Conclusion.

Mean bladder wall thickness measured using transvaginal ultrasound appears to be a sensitive method of detecting detrusor instability. In women, who on laboratory urodynamics, have no evidence of sphincter incompetence a cut-off of 0.55 cm is diagnostic of detrusor instability. However, if the laboratory study demonstrates sphincter incompetence then the ability of bladder wall thickness to discriminate between detrusor instability and genuine stress incontinence is lost. This may be explained by the fact that in order for the detrusor to become hypertrophied there must be repeated isometric contractions against a closed, competent sphincter. This study demonstrates that in women with no evidence of sphincter incompetence, and in whom there is no suggestion of voiding difficulties ultrasound assessment of bladder wall thickness can replace ambulatory urodynamics. However, in cases of mixed incontinence, ambulatory urodynamics still has a diagnostic role. If adopted in clinical practice this would represent considerable savings in time and cost.

[1] Extramural ambulatory urodynamic monitoring during natural filling and normal daily activities: evaluation of 100 patients. J Urol. 1991; 146: 124-131.
[2]Ultrasound: a non invasive screening test for detrusor instability. Br J Obstet Gynaecol. 1996; 103: 904-908.

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Title (type in CAPITAL LETTERS, leave one blank line before the text):
COUGH OR VALSALVA - WHICH IS BEST?

Aims of Study: To determine the most reliable method of demonstrating and quantifying stress urinary incontinence (SUI) by prospectively studying variations in abdominal leak point pressure (ALPP) and the objective demonstration of SUI as determined by cough or Valsalva manoeuvre.
Methods: 34 female and 16 male patients, mean age 55y., with urinary incontinence (16 SUI, 30 mixed/urge incontinence and 4 neuropathic bladders) underwent multichannel videourodynamic study (Urovision Janus; LifeTech Inc.). At 250 cc. fill volume, each patient generated 3 consecutive coughs (C) and Valsalva manoeuvres (V) at maximum effort. Abdominal pressure and ALPP were compared with regard to pressure generated, induction of urinary leak and

pressure variation. Statistical analysis was by paired Student's t-test and analysis of variance.

Results: Of 314 provocative manoeuvres, 92(29%) produced leak in 21(42%) patients. Pressures were significantly higher with C in 41(82%) patients and 270(86%) manoeuvres. Leak was demonstrated in 21 of 26(81%) patients complaining of SUI; 19(90%) by C, 14(67%) by V and 11(52%) by both. Failure to perform both manoeuvres or to repeat manoeuvres would have missed SUI in 8(38%) and 3(14%) patients respectively. In 16 patients with type 3 SUI, C underestimated the severity of outlet incompetence in 13(81%). In 5 patients with type 2 SUI, V failed to produce leak in 4(80%). Pressure variation was similar for both manoeuvres, although V pressure had a greater tendency to decline with repetition (21% vs 7%; p = 0.02).

PARAMETER	COUGH	VALSALVA	P value
Mean ALPP (standard error)	105.4 (6.9)	64.5 (3.9)	0.009
Variability - % patients	58	64	0.09
Sensitivity - % manoeuvres	89.1	65.8	0.03
Specificity - % manoeuvres	50.9	66.3	0.04

Conclusions: For objectively demonstrating SUI, C is superior to V. V underdiagnoses type 2 SUI and C underdiagnoses type 3. The results support the use of both manoeuvres to quantify ALPP and the use of repetitive manoeuvres further enhances diagnosis.

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Title (type in CAPITAL LETTERS, leave one blank line before the text):

FAVORABLE DIAGNOSTIC PROPERTIES OF COUGH-INDUCED LEAK POINT PRESSURE COMPARED WITH VALSALVA LEAK POINT PRESSURE

Background: Methods to measure abdominal leak point pressure vary with respect to mode of provocation, method used to detect leakage, and amount of bladder filling. Altering one or more of these factors might influence the sensitivity of the test as well as its ability to differentiate between patients and healthy subjects.

Aim: The aims were 1) to investigate whether bladder volume affects the detection rate of incontinence (sensitivity) or the level of leak point pressure when the Cough Induced Leak Point Pressure measurement method (CILPP)—based on coughs for provocation and urethral electrical conductivity to detect leakage—is used; 2) to study if the method has the ability to differentiate between patients with a history of stress incontinence and controls without such a history and 3) to compare these findings regarding CILPP with the corresponding findings for Valsalva Leak Point Pressure (VLPP).

Material and Methods: The study was an open, randomized, controlled clinical trial of cough induced and Valsalva leak point pressure measurements at different bladder volumes where 40 female patients with a history of stress incontinence and 11 women without current complaints of stress incontinence were included.

Leak point pressure measurements were performed at two different bladder volumes: first at 200 ml and then at 90% of the largest single voided volume as determined from the frequency/volume chart, or at 90% of maximum cystometric capacity, whichever was reached first. Mean volume at 90% of capacity was 451 ml (range 225-810 ml). The order of testing, i.e. whether the testing started with cough provocation or Valsalva maneuver, was randomized. For the individual subject, the order of testing was the same at both volumes.

Urinary leakage was detected by measuring distal urethral electrical conductance (DUEC) with a 7F Silastic probe placed in the urethra (UEC-meter). The increase in abdominal pressure above the baseline value during provocation was recorded using a microtip catheter placed in the fornix of the vagina (Figure 1).

To determine CILPP, subjects were asked to cough with gradually increasing exertion until leakage was detected. To determine the Valsalva leak point pressure, subjects were asked to bear down—as if trying to push something out of the vagina—until leakage was detected by the UEC-meter.