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Title (type in CAPITAL LETTERS): EVALUATION OF PELVIC FLOOR MUSCLE ASSESSMENT-DIGITAL, MANOMETRIC AND SURFACE ELECTROMYOGRAPHY IN FEMALES.

AIMS OF STUDY

Prior to an effective pelvic floor exercise training programme being undertaken, a comprehensive assessment of the pelvic floor is necessary. Pelvic floor strength is often measured at the time of initial assessment and later used as an outcome measure. Pelvic floor strength is measured clinically by digital, manometric and electromyographic (EMG) examination. The aim of the study was to determine any correlation between these three methods of assessment.

METHODS

65 women were investigated, of which 60 had been referred with urinary incontinence and 5 were healthy volunteers. The age range of the subjects was 22-63 years. Subjects were all examined in crook supine lying with the following methods of assessment. 1. Digitally using the Oxford scale, 2. Manometrically using the Hollister PRS system 3.Electromyographically with the Thought Technology Spectrum unit using a Periform electrode. Rigorous care was taken to ensure that the same procedure and order of assessment was used with all the subjects. Each subject performed 5 maximal pelvic floor contractions whilst being evaluated by each method. The subjects were then further evaluated by EMG assessment in both sitting and standing, performing 5 maximal contractions in each position.

RESULTS

The data was analyzed using SPSS for windows. The subject groupings, parity, BMI and age were all found to be insignificant to the main results of the study. Spearman's Correlation Coefficient was used to determine the correlation between the three methods of muscle strength assessment; all had a value $p < 0.001$

	Digital	Manometric	EMG-lie	EMG-sit	EMG-stand
Digital	1.000	.619	.752	.652	.612
Manometric	.619	1.000	.546	.521	.494
EMG -lie	.752	.546	1.000	.869	.809
EMG -sit	.652	.521	.869	1.000	.857
EMG -stand	.612	.494	.809	.857	1.000

It can be seen that the best correlation in lying was between digital and EMG assessment and the least good between manometry and EMG. When reviewing EMG assessment, all three positions of assessment correlated

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well, the least good was that between EMG in lying and standing.

<u>CONCLUSIONS</u>
All three methods of assessment appear to be well correlated with one another. However, for this to be achieved the investigator had also previously participated in an inter-tester reliability study for digital assessment.