

Effects of Examination Technique Modifications on Pelvic Organ Prolapse Quantification (POP-Q) Results

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Objectives: To evaluate the impact of specific technique variations on POP-Q measurements.

Methods: Members of the PFDN performed POP-Q measurements on a convenience sample of 133 women. Women were examined in supine lithotomy and measurements taken with a rigid measuring device. Internal points were measured with and without a speculum. The point of maximal prolapse was assessed with the patient in the supine lithotomy and standing positions. External points were measured with and without maximal strain. Repeated measures ANOVA was used to determine the relationship between POP-Q measurements taken with and without a vaginal speculum and stage of prolapse, age and body mass index, controlling for variation between observers. The effect of straining on measurements of genital hiatus (GH) and perineal body (PB) and the effect of patient position were evaluated using Pearson correlations and repeated measures ANOVA. A weighted Kappa statistic was used to determine the level of agreement between the compartment of maximal prolapse for POP-Q measures taken supine and standing. P-values less than 0.05 were considered statistically significant.

Results: With the exception of total vaginal length (TVL), mean anterior, posterior, and apical vaginal wall measurements (Aa, Ba, Ap, Bp, C, and D) did not differ whether or not a speculum was used. For all of these points, the correlations between measurements taken with and without a speculum were greater than 0.89. TVL measurements performed with a speculum were greater than those performed without a speculum; however, the average difference (\pm S.D.) was only 0.2 (\pm 1.0) cm. Genital hiatus increased significantly with straining for each stage. The percent difference between strain and no strain was similar for all stages (\leq 20%). Mean perineal body measurement increased with maximal strain. While the mean individual points did not differ significantly when measured with or without the speculum, the stage of prolapse changed in 20% of patients, in no consistent direction. Mean maximal prolapse was greater standing than in lithotomy. BMI and age were not associated with differences in measurements taken with and without either strain or speculum. A significant interaction between the measurements and the examiner was identified in most of the analyses.

Conclusions: Our data suggest that the outcome of the POP-Q examination varies with certain aspects of examination techniques. Using a speculum does not affect most aspects of the examination; however it is important that each investigator maintains consistency in technique when measuring subjects before and after treatment. Supine and standing examinations do not always agree with respect to identification of the most dependent portion of the vagina. (Supported by cooperative agreement grants from NICHD)