

Appendix 1. NICHD Pelvic Disorders Network

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Siff L, Barber MD, Zyczynski HM, Rardin CR, Jakus-Waldman S, Rahn DD, et al. Immediate postoperative pelvic organ prolapse quantification measures and 2-year risk of prolapse recurrence. *Obstet Gynecol* 2020;136.

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Appendix 2. Baseline Anatomic Measurements and Characteristics in the Analysis Population by 2-Year Outcome Availability[†]

	Outcomes Available		Outcomes Unavailable	
Characteristic	N	n (%) *	N	n (%) *
Age (years), Median (Min, Max)	329	57 (29, 80)	39	56 (35, 80)
Race	329		39	
White		276 (83.9)		34 (87.2)
African American		21 (6.4)		0 (0.0)
Other		32 (9.7)		5 (12.8)
No. of Vaginal Deliveries, Median (P25, P75)	329	3 (2, 4)	39	3 (2, 3)
No. of Cesarean Deliveries	329		39	
0		299 (90.9)		37 (94.9)
≥1		30 (9.1)		2 (5.1)
Menstrual Status	311		36	
Pre-Menopausal		90 (28.9)		12 (33.3)
Post-Menopausal		221 (71.1)		24 (66.7)
Body Mass Index (kg/m ²), Median (P25, P75)	328	28 (25, 32)	39	29 (25, 34)
Prior Procedures				
Hysterectomy		93 (28.3)		7 (17.9)
Stress Urinary Incontinence Surgery		13 (4.0)		0 (0.0)
Pelvic Organ Prolapse Surgery		23 (7.0)		2 (5.1)
POPQ Stages [‡]	329		39	
Stage 2		125 (38.0)		16 (41.0)
Stage ≥3		204 (62.0)		23 (59.0)
POPQ Values [§] (cm), Median (Min, Max)				
Aa	329	1.0 (-3.0, 3.0)	39	1.0 (-2.0, 3.0)
Ba	329	2.0 (-3.0, 11.0)	39	1.0 (-1.0, 8.0)

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C	329	-2.0 (-6.0, 11.0)	38	-2.0 (-5.0, 8.0)
Ap	329	-1.0 (-3.0, 3.0)	39	-2.0 (-3.0, 3.0)
Bp	329	-1.0 (-3.0, 11.0)	39	-1.0 (-3.0, 3.0)
GH	328	4.5 (2.0, 10.0)	39	5.0 (2.0, 7.0)
PB	328	3.0 (0.0, 7.0)	39	3.0 (1.5, 5.0)
TVL	329	9.0 (3.0, 12.0)	39	10.0 (5.5, 12.0)
Bothersome Vaginal Bulge Symptoms	312	291 (93.3)	36	34 (94.4)
Prolapse beyond the hymen				
Anterior (POPQ Aa or Ba > 0)	329	240 (72.9)	39	26 (66.7)
Posterior (POPQ Ap or Bp > 0)	329	63 (19.1)	39	9 (23.1)
Apical (POPQ C > 0)	329	100 (30.4)	38	11 (28.9)
Apical Descent (C > -2/3 TVL)	329	321 (97.6)	38	38 (100.0)
PISQ 12 Score, Median (P25, P75)	158	31 (26, 37)	21	30 (27, 36)
Posterior Colporrhaphy Performed	329	171 (52.0)	39	17 (43.6)

* Data shown are n (%), unless otherwise specified. P25=25th Percentile, P75=75th Percentile.

[†] The analysis population includes all participants that were eligible, gave consent, were randomized to both the PMT and surgical interventions, and had immediate post-operative POPQ measurements. Only participants for whom at least one of the following outcomes were assessed (i.e. non-missing) at 2 years are included in the analysis: bothersome vaginal bulge, surgical failure, retreatment for pelvic organ prolapse, and/or anatomic failure.

[‡] Pelvic Organ Prolapse Quantification (POPQ) Stages: Stage 2-The vagina is prolapsed between 1 cm above the hymen and 1 cm below the hymen; Stage 3-The vagina is prolapsed more than 1 cm beyond the hymen but is less than totally everted; Stage 4-The vagina is everted to within 2 cm of its length.

[§] In the POPQ system, the positions of C, Ba and Bp are measured at the most dependent location (the point of greatest prolapse) of the apex, anterior vaginal wall and posterior vaginal wall respectively during a straining. Values are measured in cm and are negative if above the hymen, and positive if below the hymen. TVL (total vaginal length), GH (genital hiatus) and PB (perineal body) are measured as positive values.

^{||} Bothersome vaginal bulge symptoms is defined as a positive response at the visit of interest to any vaginal bulge symptoms and a response of "Somewhat", "Moderately", or "Quite a Bit" to the follow-up question "How much does this bother you?" to either item 4 or 5 on PFDI. Any vaginal bulge symptoms is defined as a positive response at the visit of interest to either item 4 on PFDI "Do you usually have a sensation of bulging or protrusion from the vaginal area?" or item 5 on PFDI "Do you usually have a bulge or something falling out that you can see or feel in the vaginal area?"

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Appendix 3. Sensitivity and Specificity for Immediate Postoperative POPQ Genital Hiatus Cutoffs from Receiver Operator Curve (ROC) Analysis[†] for Primary and Secondary Outcomes in the Analysis Population[‡]

Immediate Post-Op POPQ Genital Hiatus Cutoff	Sensitivity (95% CI)*	Specificity (95% CI)*
Primary Outcome		
Bothersome Vaginal Bulge [§]		
3.0	0.92 (0.88 - 0.98)	0.14 (0.11 - 0.18)
3.5	0.55 (0.46 - 0.65)	0.57 (0.53 - 0.62)
4.0	0.39 (0.30 - 0.49)	0.71 (0.67 - 0.76)
Secondary Outcome		
Surgical Failure		
3.0	0.90 (0.85 - 0.94)	0.13 (0.10 - 0.17)
3.5	0.58 (0.51 - 0.66)	0.60 (0.55 - 0.66)
4.0	0.41 (0.34 - 0.47)	0.74 (0.69 - 0.78)

* CI = Confidence Interval

[†] The sensitivity and specificity estimates and 95% confidence intervals for the cutoffs are obtained via bootstrapping of the receiver operator curve analysis of a logistic regression model for outcome at 2 years predicted based on immediate post-operative POPQ point genital hiatus.

[‡] The analysis population includes all participants that were eligible, gave consent, were randomized to both the PMT and surgical interventions, and had immediate post-operative POPQ measurements. Only participants for whom the outcome was assessed (i.e. non-missing) are included in the analysis.

[§] Bothersome vaginal bulge is defined as a positive response at the visit of interest if one of the following criteria is met: a positive response to bothersome vaginal bulge symptoms or retreatment for pelvic organ prolapse (POP) 5 through the visit of interest. Bothersome vaginal bulge symptoms is defined as a positive response at the visit of interest to any vaginal bulge symptoms and a response of "Somewhat", "Moderately", or "Quite a Bit" to the follow-up question "How much does this bother you?" to either item 4 or 5 on PFDI. Any vaginal bulge symptoms is defined as a positive response at the visit of interest to either item 4 on PFDI "Do you usually have a sensation of bulging or protrusion from the vaginal area?" or item 5 on PFDI "Do you usually have a bulge or something falling out that you can see or feel in the vaginal area?"

^{||} Surgical failure at 24 months is defined as not meeting all of the following criteria: POPQ value C \leq -2/3 x TVL at 24 months, all POPQ values of points Aa, Ba, Ap, and Bp \leq 0 at 24 months, experiencing no bothersome vaginal bulge symptoms at 24 months, and no retreatment for pelvic organ prolapse (POP). Retreatment for pelvic organ prolapse (POP) is defined as re-operation or pessary for POP through 24 months post-surgery.

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