

Appendix 1. List of Acknowledgements for REVEAL

CARE	Uoflowa	Bradley, Catherine S	Acknowledgement	catherine-bradley@uiowa.edu
CARE	Loyola	Brubaker, Linda	Author	Lbrubaker@luc.edu
CARE	UAB	Burgio, Kathryn L	Acknowledgement	kburgio@uabmc.edu
CARE	UMich	Casher, Yang Wang	Acknowledgement	yangwang@umich.edu
CARE	UNC-CH	Connolly, Anna Marie	Acknowledgement	annamarie_connolly@med.unc.edu
CARE	Johns Hopkins	Cundiff, Geoffrey W	Author	GCundiff@providencehealth.bc.ca
CARE	Baylor	Fine, Paul	Author	pfine@bcm.edu
CARE	Magee	Gruss, Judy	Acknowledgement	jgruss@mail.magee.edu
CARE	Johns Hopkins	Handa, Victoria L	Acknowledgement	vhanda1@jhmi.edu
CARE	Uoflowa	Kreder, Karl	Acknowledgement	karl-kreder@uiowa.edu
CARE	UMich	Marchant, Bev	Acknowledgement	bevm@umich.edu
CARE	Magee	Moalli, Pamela	Acknowledgement	pmoalli@mail.magee.edu
CARE	UAB	Richter, Holly E	Author	hrichter@uabmc.edu
CARE	UAB	Varner, R Edward	Acknowledgement	evarner@uabmc.edu
CARE	Duke	Visco, Anthony G	Author	anthony.visco@duke.edu
CARE	UMich	Wei, John T	Acknowledgement	jtwei@med.umich.edu
CARE	UNC-CH	Whitehead, William	Acknowledgement	william_whitehead@med.unc.edu
CARE	UMich	Wren, Patricia A	Acknowledgement	pwren@umich.edu
CARE	Magee	Zyczynski, Halina M	Author	hzychynski@mail.magee.edu
OPTIMAL	UCSD	Albo, Michael E	Acknowledgement	malbo@ucsd.edu
OPTIMAL	Duke	Amundsen, Cindy L	Acknowledgement	cindy.amundsen@duke.edu
OPTIMAL	UTSW	Atnip, Shanna	Acknowledgement	SHANNA.ATNIP@phhs.org
OPTIMAL	Utah	Baker, Jan	Acknowledgement	Jan.baker@hsc.utah.edu
OPTIMAL	UAB	Ballard, Alicia	Acknowledgement	aballard@uabmc.edu
OPTIMAL	CC	Barber, Matthew D	Author	Barberm2@ccf.org
OPTIMAL	Magee	Borello-France, D	Author	borellofrance@duq.edu
OPTIMAL	Loyola	Brubaker, Linda	Author	Lbrubaker@luc.edu

Rogers RG, Nolen TL, Weidner AC, Richter HE, Jelovsek JE, Shepard JP, et al. Surgical outcomes after apical repair for vault compared with uterovaginal prolapse. *Obstet Gynecol* 2018; 131.

The authors provided this information as a supplement to their article.

©2018 American College of Obstetricians and Gynecologists.

OPTIMAL	UAB	Burge, Julie	Acknowledgement	jburge@uabmc.edu
OPTIMAL	UAB	Burgio, Kathryn L	Author	kburgio@uabmc.edu
OPTIMAL	UAB	Carter, Kathy	Acknowledgement	kcarter@uabmc.edu
OPTIMAL	UMich	Casher, Yang Wang	Acknowledgement	yangwang@umich.edu
OPTIMAL	UMich	Chen, Yeh-Hsin	Acknowledgement	yehsin@umich.edu
OPTIMAL	UMich	DiFranco, Donna	Acknowledgement	donnadi@med.umich.edu
OPTIMAL	Kaiser SD	Diwadkar, Gouri	Acknowledgement	Gouri.B.Diwadkar@kp.org
OPTIMAL	Kaiser SD	Dyer, Keisha Y	Acknowledgement	Keisha.Y.Dyer@kp.org
OPTIMAL	CC	Frick, Anna	Acknowledgement	africk76@gmail.com
OPTIMAL	RTI	Gantz, Marie	Author	mgantz@rti.org
OPTIMAL	UAB	Goode, Patricia S	Author	pgoode@uabmc.edu
OPTIMAL	UCSD	Grimes, Cara	Acknowledgement	cara@jhu.edu
OPTIMAL	Kaiser SD	Hall, Lynn M	Acknowledgement	Lynn.M.Hall@kp.org
OPTIMAL	Duke	Harm-Ernandes, Ingrid	Acknowledgement	harme004@mc.duke.edu
OPTIMAL	SC Chair	Hartmann, Katherine	Acknowledgement	Katherine.hartmann@vanderbilt.edu
OPTIMAL	Utah	Hsu, Yvonne	Acknowledgement	yvonne.hsu@hsc.utah.edu
OPTIMAL	Kaiser Bellflower	Jakus-Waldman, S	Author	sharonjakus@hotmail.com
OPTIMAL	CC	Jelovsek, John Eric	Acknowledgement	JELOVSJ@ccf.org
OPTIMAL	RTI	Klein Warren, Lauren	Author	lklein@rti.org
OPTIMAL	UCSD	Lukacz, Emily S	Author	elukacz@ucsd.edu
OPTIMAL	Kaiser SD	Mackinnon, Linda M	Acknowledgement	linda.m.mackinnon@kp.org
OPTIMAL	UMich	Marchant, Bev	Acknowledgement	bevm@umich.edu
OPTIMAL	UAB	Markland, Alayne D	Acknowledgement	amarkland@uabmc.edu
OPTIMAL	Utah	Masters, Maria	Acknowledgement	Maria.masters@hsc.utah.edu
OPTIMAL	RTI	Matthews, Daryl	Acknowledgement	dmatthews107@nc.rr.com
OPTIMAL	RTI	Matthews, Daryl	Acknowledgement	dmatthews107@nc.rr.com
OPTIMAL	former NICHD	Meikle, Susan F	Author	cocomeikle1@gmail.com
OPTIMAL	Kaiser SD	Menefee, Shawn A	Author	Shawn.A.Menefee@kp.org
OPTIMAL	UTSW	Moore, Elva Kelly	Acknowledgement	Kelly.Moore@UTSouthwestern.edu

Rogers RG, Nolen TL, Weidner AC, Richter HE, Jelovsek JE, Shepard JP, et al. Surgical outcomes after apical repair for vault compared with uterovaginal prolapse. *Obstet Gynecol* 2018; 131.

The authors provided this information as a supplement to their article.

©2018 American College of Obstetricians and Gynecologists.

OPTIMAL	Loyola	Mueller, Elizabeth	Acknowledgement	emueller@lumc.edu
OPTIMAL	UCSD	Nager, Charles W	Acknowledgement	cnager@ucsd.edu
OPTIMAL	Kaiser	Nguyen, John N	Author	John.N.Nguyen@kp.org
OPTIMAL	CC	O'Dougherty, Betsy	Acknowledgement	ODOUGHB@ccf.org
OPTIMAL	Utah	Orr, Amy	Acknowledgement	Amy.orr@hsc.utah.edu
OPTIMAL	UAB	Pair, Lisa S	Acknowledgement	lpair@uab.edu
OPTIMAL	CC	Paraiso, Marie FR	Acknowledgement	paraism@ccf.org
OPTIMAL	UAB	Parker-Autry, Candace	Acknowledgement	cparkera@wakehealth.edu
OPTIMAL	CC	Pung, Ly	Acknowledgement	pungl@ccf.org
OPTIMAL	UTSW	Rahn, David	Acknowledgement	David.Rahn@UTSouthwestern.edu
OPTIMAL	Duke	Raynor, Mary	Acknowledgement	maryraynor@gmail.com
OPTIMAL	UAB	Richter, Holly E	Author	hrichter@uabmc.edu
OPTIMAL	CC	Ridgeway, Beri M	Acknowledgement	Beri.Ridgeway@medsch.ucr.edu
OPTIMAL	UTSW	Schaffer, Joseph	Author	Joseph.Schaffer@UTSouthwestern.edu
OPTIMAL	RTI	Shaffer, Amanda	Acknowledgement	ashaffer@rti.org
OPTIMAL	Duke	Siddiqui, Nazema Y	Acknowledgement	nazema.siddiqui@dm.duke.edu
OPTIMAL	UMich	Spino, Cathie	Author	spino@umich.edu
OPTIMAL	Kaiser SD	Tan-Kim, Jasmine	Acknowledgement	Jasmine.X.Tan-Kim@kp.org
OPTIMAL	RTI	Terry, Tamara T	Acknowledgement	tterry@rti.org
OPTIMAL	RTI	Thornberry, Jutta	Acknowledgement	juttathornberry@gmail.com
OPTIMAL	Loyola	Tulke, Mary	Acknowledgement	mtulke@luc.edu
OPTIMAL	UAB	Varner, R Edward	Acknowledgement	evartner@uabmc.edu
OPTIMAL	Duke	Visco, Anthony G	Acknowledgement	anthony.visco@duke.edu
OPTIMAL	UTSW	Wai, Clifford	Acknowledgement	clifford.wai@utsouthwestern.edu
OPTIMAL	RTI	Wallace, Dennis	Acknowledgement	dwallace@rti.org
OPTIMAL	UMich	Wei, John T	Acknowledgement	jtwei@med.umich.edu
OPTIMAL	Duke	Weidner, Alison C	Author	alison.weidner@dm.duke.edu
OPTIMAL	RTI	Whitworth, Ryan E	Acknowledgement	whitworthryan@hotmail.com
OPTIMAL	CC	Williams, Cheryl	Acknowledgement	williac@ccf.org

Rogers RG, Nolen TL, Weidner AC, Richter HE, Jelovsek JE, Shepard JP, et al. Surgical outcomes after apical repair for vault compared with uterovaginal prolapse. *Obstet Gynecol* 2018; 131.

The authors provided this information as a supplement to their article.

©2018 American College of Obstetricians and Gynecologists.

OPTIMAL	RTI	Wilson, Kevin A	Acknowledgement	kwilson@rti.org
OPTIMAL	UAB	Wilson, Tracey S	Acknowledgement	traceywilson@uabmc.edu
OPTIMAL	Duke	Wu, Jennifer M	Acknowledgement	jmwu@med.unc.edu
OPTIMAL	Kaiser SD	Zazueta-Damian, Gisselle	Acknowledgement	Gisselle.Zazueta-Damian@kp.org
OPUS	Duke	Amundsen, Cindy L	Author	cindy.amundsen@duke.edu
OPUS	CC	Barber, Matthew D	Author	matthew.barber@duke.edu
OPUS	NICHD	Meikle, Susan F	Author	cocomeikle1@gmail.com
OPUS	UCSD	Nager, Charles W	Author	cnager@ucsd.edu
OPUS	UAB	Richter, Holly E	Author	hrichter@uabmc.edu
OPUS	UTSW	Schaffer, Joseph	Author	Joseph.Schaffer@UTSouthwestern.edu
OPUS	UMich	Spino, Cathie	Author	spino@umich.edu
OPUS	UMich	Wei, John T	Author	jtwei@med.umich.edu

Rogers RG, Nolen TL, Weidner AC, Richter HE, Jelovsek JE, Shepard JP, et al. Surgical outcomes after apical repair for vault compared with uterovaginal prolapse. *Obstet Gynecol* 2018; 131.

The authors provided this information as a supplement to their article.

©2018 American College of Obstetricians and Gynecologists.

Appendix 2. Primary Outcome Results of Women Undergoing Surgery With a Vaginal Approach

<i>Outcome</i>	<i>Statistic/ Category</i>	<i>Vault Prolapse (N=193)</i>	<i>Uterovaginal Prolapse (N=508)</i>	<i>Adjusted difference or odds ratio(95% CI*) †</i>	<i>Raw P- value ‡</i>	<i>Adjusted P-value ‡</i>
POPq Ba	Overall	-0.55	-0.79	0.25 (-0.01,0.50)	0.098	0.058
	Month 3	-1.00	-1.23	0.22 (-0.11,0.56)	0.395	0.192
	Month 6	-0.58	-0.84	0.26 (-0.08,0.60)	0.172	0.133
	Month 12	-0.35	-0.61	0.26 (-0.02,0.54)	0.127	0.067
	Month 24	-0.26	-0.51	0.25 (-0.10,0.60)	0.223	0.164
POPq C	Overall	-5.71	-6.10	0.39 (-0.04,0.82)	0.280	0.075
	Month 3	-5.68	-6.37	0.69 (0.02,1.37)	0.142	0.044
	Month 6	-6.07	-6.32	0.25 (-0.43,0.94)	0.771	0.467
	Month 12	-5.46	-5.87	0.40 (-0.12,0.93)	0.408	0.131
	Month 24	-5.63	-5.84	0.21 (-0.51,0.93)	0.906	0.571
POPq Bp	Overall	-2.17	-2.22	0.04 (-0.13,0.22)	0.015	0.629
	Month 3	-2.28	-2.30	0.03 (-0.24,0.29)	0.137	0.845
	Month 6	-2.27	-2.29	0.01 (-0.26,0.28)	0.079	0.923
	Month 12	-2.11	-2.20	0.09 (-0.12,0.30)	0.126	0.415
	Month 24	-2.04	-2.09	0.05 (-0.24,0.33)	0.147	0.738
Absence of bother-some bulge: n (%)	Overall			0.48 (0.24,0.97)	0.256	0.058

Rogers RG, Nolen TL, Weidner AC, Richter HE, Jelovsek JE, Shepard JP, et al. Surgical outcomes after apical repair for vault compared with uterovaginal prolapse. *Obstet Gynecol* 2018; 131.

The authors provided this information as a supplement to their article.

©2018 American College of Obstetricians and Gynecologists.

	Month 3	91 (95)	227 (99)	0.17 (0.04,0.78)	0.086	0.047
	Month 6	80 (93)	229 (94)	0.55 (0.20,1.51)	0.700	0.316
	Month 12	164 (91)	412 (90)	0.81 (0.41,1.59)	0.651	0.547
	Month 24	70 (88)	191 (87)	0.73 (0.30,1.79)	0.737	0.519
Support above hymen: n (%)	Overall			0.71 (0.45,1.12)	0.158	0.157
	Month 3	80 (87)	198 (88)	0.81 (0.36,1.84)	0.801	0.623
	Month 6	77 (88)	220 (92)	0.58 (0.27,1.26)	0.198	0.205
	Month 12	136 (80)	367 (82)	0.82 (0.49,1.39)	0.535	0.470
	Month 24	63 (82)	195 (86)	0.65 (0.31,1.35)	0.261	0.276
No report of retreatment: n (%)	Month 3	96 (100)	235 (100)		Not Est.	
	Month 6	92 (100)	250 (99)		Not Est.	
	Month 12	184 (97)	475 (98)		Not Est.	
	Month 24	90 (97)	241 (95)		Not Est.	
Success: n (%)	Overall			0.67 (0.43,1.04)	0.232	0.088
	Month 3	79 (85)	192 (88)	0.73 (0.34,1.56)	0.652	0.429
	Month 6	69 (83)	196 (86)	0.59 (0.30,1.15)	0.270	0.154
	Month 12	120 (71)	326 (75)	0.71 (0.44,1.14)	0.404	0.162
	Month 24	52 (71)	160 (74)	0.66 (0.34,1.28)	0.486	0.243
* CI Confidence Interval						

Rogers RG, Nolen TL, Weidner AC, Richter HE, Jelovsek JE, Shepard JP, et al. Surgical outcomes after apical repair for vault compared with uterovaginal prolapse. *Obstet Gynecol* 2018; 131.

The authors provided this information as a supplement to their article.

©2018 American College of Obstetricians and Gynecologists.

†For continuous outcomes, adjusted means and differences are presented based on repeated measure mixed models adjusting for center where possible as well as occurrence of anterior or posterior surgeries, prior POP surgery, age, BMI and POP-q stage. For binary outcomes, proportions and adjusted odds ratios of vault vs. uterovaginal prolapse are presented based on subjects with available data at the visit.

‡Raw p-values based on analyses with no adjustments. Adjusted p-values based on repeated measure mixed models adjusting for center where possible as well as occurrence of anterior or posterior surgeries, prior POP surgery, age, BMI and POP-q stage Note that the p-values included in this table are considered to be descriptive, not inferential and should be interpreted cautiously given the number of comparisons, as 3 to 4 p-values of 0.05 or less would be expected simply by chance.

Appendix 3. Adverse Events

	<i>Vault Prolapse</i> (N=421)	<i>Uterovaginal Prolapse</i> (N=601)	<i>Raw P-value *†</i>	<i>Adjusted P-value †</i>
Any Serious Adverse Event (%)	86 (20)	90 (15)	0.028	0.855
Number of Serious Adverse Events per subject Mean +/-SD‡ (Range)	0.2 +/-0.5 (0, 3)	0.2 +/- 0.5(0, 3)	0.106	0.943
Maximum reported DINDO score, n(%)				
1	12 (3)	5 (1)	0.636	0.332
2	20 (5)	26 (4)		
3	51 (12)	57 (10)		
4	3 (1)	1 (0)		
*CI Confidence Interval † P-values based on comparing outcomes between groups while excluding missing outcomes. Adjusted p-value controls for center, apical procedure type and occurrence of posterior or anterior procedure. ‡SD Standard Deviation				

Appendix 4. Perioperative Complications

<i>Characteristic</i>	<i>Uterovaginal</i>		<i>P-value *</i>
	<i>Vault Prolapse</i> (N=421)	<i>Prolapse</i> (N=599)	
Ureteral injury during surgery(%)	5 (1)	12 (2)	0.457
Blood transfusion during hospitalization(%)	8 (2)	17 (3)	0.414
Cystotomy/urethral injury(%)	20 (5)	38 (6)	0.337
Bowel injury(%)	1 (0)	0	0.412
Vascular injury(%)	1 (0)	0	0.412
Nerve injury(%)	0	2 (0)	0.515
Deep vein thrombosis injury(%)	1 (0)	1 (0)	1.000
Pulmonary embolism(%)	1 (0)	2 (0)	1.000
Mesh erosion (%)	1 (0)	3 (1)	0.6469

* P-values based on comparing outcomes between groups while excluding missing outcomes. Due to small cell counts, p-values are based on unadjusted, Fisher exact tests.