Oral Presentation 01
FACULTY SURGICAL PRECEPTOR PROGRAM ENHANCES RESIDENT SURGICAL EXPERIENCE

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Objectives: The aim of this study was to analyze the effectiveness of a faculty surgical preceptor program designed to enhance residency education in minimally invasive hysterectomy (MIH) through increasing the number of faculty members performing laparoscopic hysterectomy (LH) without compromising vaginal hysterectomy (VH).

Materials and Methods: This is a retrospective descriptive study to evaluate the effectiveness of the preceptor program over 5 years in enhancing faculty members' ability to perform LH. Elements of the preceptor program include; entry criteria, dedicated OR time without learners, assigned preceptors with structured assessment of competence, credentialing mechanism, and a reimbursement model for participation. We longitudinally analyze the surgeons' volume of hysterectomy stratified by surgical approach. To evaluate the impact of the program on resident education, we analyze the volume of hysterectomy cases attended by residents stratified by surgical approach. To investigate the importance of specific components of the preceptor program, we compare its effectiveness at two hospital sites that implemented the program differently. Descriptive statistics were used.

Results: Since implementing the preceptor program at one hospital in 2007, the percentage of surgeons performing half of hysterectomies by MIH steadily increased from 13% to 56% by the fifth year. The increase in MIH was due to an increase in LH, without changing VH. The resident experience in MIH increased at a similar rate but did not quite reach the 50% MIH threshold. The portion of LH cases available to residents increased from 0 to 26%. Contrasting the experience of the preceptor program at 2 academic health care centers revealed that dedicating OR slates to the preceptor program provided significantly better results.

Conclusion: The preceptor program is an effective approach to allow practicing faculty members to develop new surgical techniques, and this provides benefits to resident surgical education.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
The authors report no disclosures.

Oral Presentation 02
SURGICAL SITE INFECTIONS AFTER HYSTERECTOMY

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Objectives: Our objective was to estimate the occurrence of surgical site infections (SSI) after hysterectomy and associated risk factors.

Materials and Methods: The American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) is a national program for surgical quality improvement collecting uniform data on over 105 variables including: preoperative characteristics, surgical information, and 30 day postoperative complications. We conducted a cross-sectional analysis of the 2005-09 ACS NSQIP participant use data files to analyze hysterectomies. The primary outcome was 30-day superficial, deep, and organ-space SSI. Superficial SSI was defined as an infection involving only skin or subcutaneous tissue of the incision. Deep SSI was defined as an infection involving the surgical incision and deep soft tissues. Organ-space SSI was defined as an infection or abscess that does not drain through the surgical incision. Logistic regression models were conducted to further explore the associations of risks factors with SSI after hysterectomy. Routes of hysterectomy were categorized according to current procedural terminology (CPT) codes. Transvaginal hysterectomy was used as a reference for all other categories of hysterectomy route. Variables associated with SSI were identified for potential inclusion in the final model based on univariable analysis ($p < .1$). Variables were added to the model in a stepwise fashion utilizing forward and backward selection ($p \leq .05$). Adjusted Odds Ratios (AOR) and 95% confidence intervals (CI) were calculated.

Results: A total of 13,962 women were included in our final analysis. The 75th percentile for operative time was 149 minutes.

The overall occurrence of superficial and deep SSI was 2.0% (n=279). Risk factors associated with superficial and deep SSI were route of hysterectomy (supracervical hysterectomy AOR=4.0-95% CI 2.2,7.2) (total abdominal hysterectomy AOR=3.5-95% CI 2.3,5.5) (laparoscopic-assisted vaginal hysterectomy AOR=1.1-95% CI 0.6,2.0) (total laparoscopic hysterectomy AOR=0.9-95% CI 0.4,2.1) (laparoscopic supracervical hysterectomy AOR=2.0-95% CI 1.1,3.5), American Society of Anesthesia Class ≥ III (AOR=1.9-95% CI 1.4,2.4), operative time >75th percentile duration (AOR=1.8-95% CI 1.4,2.3), diabetes mellitus (AOR=1.6-95% CI 1.2,2.3), smoking (AOR=1.5-95% CI 1.2,2.0), obesity (AOR=1.5-95% CI 1.1,2.0), and morbid obesity (AOR=3.1-95% CI 2.3,4.3).

The occurrence of organ-space SSI was 0.8% (n=111). Risk factors associated with organ-space SSI were cerebrovascular accident with neurologic deficit (AOR=6.2-95% CI 1.9,20.3), unintentional weight loss (AOR=3.7-95% CI 1.1,12.4), smoking (AOR=1.91-95% CI 1.3,2.9), preoperative anemia (hematocrit <36) (AOR=1.7-95% CI 1.1,2.6), and operative time >75th percentile duration (AOR=1.5- 95% CI 1.0,2.3).

Conclusion: Superficial and deep SSI after hysterectomy were associated with route of hysterectomy. Increased operative time was associated with superficial, deep, and organ-space SSI. Increased understanding of risk-factors for SSI will allow for the development of better risk-adjustment models to predict, and possibly design strategies to prevent, the expected occurrence of SSI after hysterectomy.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
The authors report no disclosures.

Oral Presentation 03
ARE PATIENTS PERSONAL GOALS ACHIEVED AFTER PELVIC RECONSTRUCTIVE SURGERY?

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Objectives: Our primary objective was to describe patient goals before pelvic reconstructive surgery, and postoperative goals achieved and not achieved at 12 months. Our secondary objective was to evaluate the association between postoperative patient-reported symptoms and successful goal achievement.

Materials and Methods: We performed a secondary analysis using a de-identified database from a randomized trial comparing rectocele repair with or without graft use. Women undergoing other pelvic reconstructive and anti-incontinence procedures were included. Women were asked to list in their own words their top 4 preoperative goals. 12 months after surgery, without reviewing preoperatively stated goals, patients were asked to report goals achieved and not accomplished. We divided goals into "Symptom improvement goals" and "Functioning goals". Symptom improvement goals were further categorized as defecatory, bulge, incontinence and pain/discomfort symptom improvement. Functioning goals were further categorized into physical, social, emotional and sexual function categories. Women also completed symptom questionnaires pre- and post-operatively including defecatory, bulge and incontinence items from the PFDI-20. Patient preoperative goals, postoperative goals achieved, and not achieved were described using simple statistics. The association between defecatory, bulge, and incontinence symptoms based on the PFDI and goal achievement was described using Chi-square.

Results: 125/160 (78%) women were included in this analysis. The mean age was 55 years (+/-10.9), 92% were white, 58.5% had previous pelvic surgery;. 44% underwent concomitant prolapse repairs; 52.8% had anti-incontinence procedures. The most common preoperative symptom improvement goal category was bulge (64.8%), followed by defecatory (60%), incontinence (41.6%) and pain/discomfort improvement (17.6%). Preoperative functioning goal categories included: sexual (20.8%), emotional (16.8%), physical (16%) and social function (7.2%). Postoperatively, the goal category most frequently achieved was incontinence (72%) followed by sexual function (55.6%), bulge (53.4%), defecatory (48.5%) physical (33.3%), emotional (27.8%) and social function (22.2%). Goal categories listed as not achieved included: physical function (6.7%), sexual function (5.6%), defecatory (2.9%), bulge (2.7%) and incontinence (2%).

Of the women reporting postoperative defecatory symptoms on PFDI-20, 46.3% reported successful achievement of their defecatory goal. Of the women reporting incontinence symptoms, 77.8% reported achievement of their incontinence goal. One patient reported bulge symptoms 12 months postoperatively and listed bulge as a non-achieved goal. There was no statistical difference in women who did and did not report symptoms postoperatively and goal achievement ($p>0.5$).

Conclusion: Women seeking care for pelvic floor dysfunction predominantly report symptom related goals. The goal category most frequently achieved was improvement in urinary incontinence and the goal category least frequently

achieved was social function improvement. Of the women who reported defecatory, bulge and/or incontinence symptoms postoperatively, many still reported successful goal achievement.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
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Oral Presentation 04

OBESITY AND HYSTERECTOMY: EFFECT OF MODE OF HYSTERECTOMY ON PERIOPERATIVE COMPLICATIONS

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Objectives: The objectives of this study were to (1) determine the impact of obesity on complications of hysterectomy and (2) investigate the effect of mode of hysterectomy on perioperative outcomes in overweight and obese women.

Materials and Methods: We performed a retrospective cohort study of hysterectomies performed at Women and Infants Hospital between July 2006 and January 2009. All patients who underwent a laparoscopic approach for hysterectomy were included. We randomly selected vaginal (TVH) and abdominal hysterectomies performed during the study period to serve as comparators. This study is Institutional Review Board approved. Data were collected from medical records. The independent variable, body mass index (BMI) was grouped according to World Health Organization guidelines. The dependent variable, "major surgical complications", was defined as having a bowel injury, blood vessel injury, trocar site hernia, pelvic hematoma, vaginal non-healing, need for reoperation, pelvic infection, urinary tract infection, sepsis, or thromboembolic event. "Minor surgical complications" was defined as conversion to laparotomy, wound cellulitis, need for transfusion, or estimated blood loss, surgical duration, length of hospitalization > 90th percentile. Multivariable logistic regression was used to estimate adjusted odds ratios and 95% confidence intervals.

Results: We collected data from 816 hysterectomies performed during the study period [102 total laparoscopic hysterectomy (TLH), 293 laparoscopic assisted vaginal hysterectomy (LAVH), 148 laparoscopic supracervical hysterectomy (LASH), 99 abdominal hysterectomies and 174 TVHs]. Thirty-two percent (n=260) of the population was overweight and 29.7% (n=242) was obese. Fifty-eight patients (7.1%) had at least one major complication and 25.3% of patients had at least one minor complication. Compared to non-obese women, obese women were not at increased odds for major complications (OR=0.83, 95%CI 0.43-1.6) but were at increased odds (OR=1.92, 95% CI 1.32-2.79) of having a minor complication when we adjusted for race, prior cesarean section, malignancy, concomitant procedures, and previous surgeries. Looking specifically at obese women, major complication rate did not differ by mode of hysterectomy however minor complication rate did (abdominal hysterectomy=62.8%, TVH= 32.7%, LAVH=32.6%, LASH/TLH=21.3%, p= 0.0002). Similar trends were seen when data were analyzed for obese and overweight women together.

Conclusion: In conclusion, determining risk of complications associated with hysterectomy in obese women could facilitate patient counseling on risks of complications. In obese and overweight women we found an increase in minor complication rates overall and in women undergoing abdominal hysterectomy compared to other modes of hysterectomy.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
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Oral Presentation 05

THE EFFECT OF HYSTERECTOMY, WITH AND WITHOUT BSO, ON URINARY INCONTINENCE

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Objectives: To evaluate the impact of hysterectomy on urinary incontinence (UI).

Materials and Methods: Postmenopausal women with uteri (N=53,569) and without uteri (N=38,524), ages 50 to 79, enrolled in the Women's Health Initiative Observational Study between 1993 and 1996, were included in this secondary analysis. Baseline (BL) and 3-year demographic, health/physical forms and personal habits questionnaires were used. Questions on UI were validated in previous epidemiological studies. Statistical analyses included univariate and logistic regression methods.

Results: 88.1% of participants underwent hysterectomy before age 54. Bilateral salpingo-oophorectomy (BSO) was done in 49.5% of women who underwent hysterectomy (HW) with 50.8% had BSO before the age of 40. At BL 27.3% of participants had stress urinary incontinence (SUI), 23% had urge UI (UUI), and 12.4% had mixed UI (MUI). Over the 3-year period, 27% (8,527) developed UI and 10.4% (6,365) became continent. Controlling for health/physical variables, hysterectomy was associated with UI at BL (OR 1.25, 95% CI 1.19, 1.32) and year 3 (OR 1.23, 95% CI 1.11, 1.36). At BL the risk of having daily SUI, UUI, and MUI episodes was increased in HW. Excluding women with UI at BL, a higher incidence of UUI and SUI was found in HW at year 3. Among women who underwent hysterectomy, those with BSO did not have increased odds of developing UI at BL or at 3 years. Hormone use was not associated with a change in UI incidence (estrogen + progesterone, p=0.26; unopposed estrogen, p=0.60). The interaction between BSO and hormone use (separately for E+P and E-alone) among HW was not significant (p>0.47).

Conclusion: Risk of UI is increased in women who underwent hysterectomy compared to women with uteri. BSO status is not associated with an increase in UI in HW. Hormone use does not appear to decrease UI incidence in HW with BSO.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
The authors report no disclosures.

Multinomial logistic regression† evaluating the association between hysterectomy status at baseline and frequency of urinary incontinence by type at baseline and at Year 3‡

		Urinary Incontinence* (episode frequency)			
		>1/mo to <1/wk	≥1/wk to <daily	Daily	P-value
Stress Urinary Incontinence					
Baseline	N	6,624	5,653	2,759	<.0001
	OR (95% CI) for hysterectomy (yes vs.. no)	1.04 (0.94, 1.16)	1.34 (1.20, 1.50)	1.60 (1.38, 1.86)	
3 Year	N	743	325	94	0.04
	OR (95% CI) for hysterectomy (yes vs.. no)	1.38 (1.04, 1.83)	1.29 (0.86, 1.93)	1.88 (0.89, 3.95)	
Urge Urinary Incontinence					
Baseline	N	5,937	5,851	2,187	<.0001
	OR (95% CI) for hysterectomy (yes vs.. no)	1.22 (1.10, 1.36)	1.28 (1.16, 1.42)	1.66 (1.43, 1.94)	
3 Year	N	1,070	576	119	0.001
	OR (95% CI) for hysterectomy (yes vs.. no)	1.56 (1.24, 1.95)	1.07 (0.78, 1.47)	0.92 (0.46, 1.82)	
Mixed Urinary Incontinence					
Baseline	N	2,774	4,007	2,509	<.0001
	OR (95% CI) for hysterectomy (yes vs.. no)	1.18 (1.02, 1.37)	1.42 (1.26, 1.61)	1.66 (1.42, 1.93)	
3 Year		P-value = 0.65			

†Adjusted for age, ethnicity, income, smoking status, alcohol use, BMI, waist circumference, physical activity, parity, age at menopause, age at BSO, duration of E-alone use, duration of E+P use, and history of asthma, emphysema, and constipation. ‡Excludes women who reported any UI at BL. *Excludes women who reported UI frequency <1/month.

Oral Presentation 06

FUNCTIONAL AND ANATOMIC COMPARISON OF 2 VERSUS 3 SUTURE PLACEMENT FOR UTEROSACRAL LIGAMENT SUSPENSION IN A CADAVERIC MODEL

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Objectives: To compare vaginal apex pullout distance using two versus three suspension sutures during transvaginal uterosacral ligament suspension

(USLS), and to describe relationships to ureter and nerve structures surrounding each suspension suture.

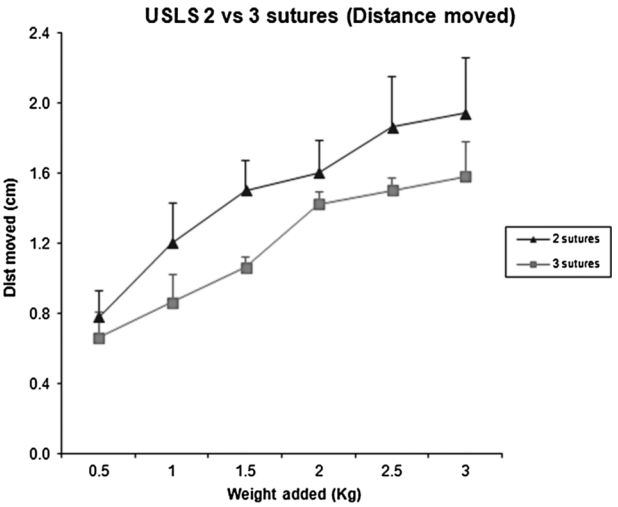
Materials and Methods: Five fresh-frozen female cadavers were studied. In each cadaver, a total hysterectomy was performed, followed by a transvaginal USLS procedure with placement of three suspension sutures per side. The suspension sutures were tagged to the vaginal cuff in the usual fashion. The two most distal sutures on each ligament were tied. A screw-and-washer attachment was secured in the middle of the repaired vaginal cuff. The screw was tied to a pulley system with surgical filament, and distal traction applied with sequentially increasing weight loads (0.5 to 3 kg, in 500 g increments). Distal migration of the vaginal apex from baseline with each weight load was recorded. The remaining, most proximal suspension suture was tied and the procedure repeated, with a total of three sutures per side. The location of each suture on the uterosacral ligament was marked. Horizontal distances to the ipsilateral ureter were measured. Three discrete points were marked on sacral nerves S1, S2 and S3 (at the foramen, 1 cm and 2 cm from foramen, respectively), and the shortest distance between each point and each ipsilateral USLS suture measured. Descriptive statistics and repeated measures analysis of variance was performed to compare measurements.

Results: Distal migration of the vaginal cuff for each weight load with 2 and 3 USLS sutures per side is illustrated in the Figure. At maximum load (3 kg), migration from baseline with 2 sutures was (mean ± SEM) 1.9 ± 0.32 cm and 1.6 ± 0.19 cm for 3 sutures. Distances from each USLS suture to the ipsilateral ureter were similar on either side, with the most distal suture on each ligament demonstrating the nearest distance (1.0 ± 0.28 cm on right, 1.1 ± 0.29 cm on left, $p>0.05$). Distances to each of the three discrete points on the S1-S3 nerves between each suspension suture were comparable ($p>0.05$).

Conclusion: In this cadaveric study, three USLS sutures appeared to provide more support to the vaginal apex than two sutures, although the absolute difference may not be clinically significant. Our data suggests that using 2 or 3 sutures during transvaginal USLS does not result in additional risk for direct injury to ureteral or sacral nerve structures.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

The authors report no disclosures.



Oral Presentation 07
COST-EFFECTIVENESS ANALYSIS OF UNILATERAL VERSUS BILATERAL ASSESSMENT DURING STAGE I AND PERIPHERAL NERVE EVALUATION TESTING PHASES WITH INTERSTIM™ SACRAL NEUROMODULATION

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Objectives: Sacral neuromodulation with Interstim™ can be performed in the OR with staged implants or by office peripheral nerve evaluation (PNE) followed by combined stage I/II procedure. In both scenarios, unilateral (Uni) or bilateral (Bi) leads can be placed for testing phase. Other alternatives not usually considered include no treatment and combined stage I/II procedure with no test phase. Our objective was to determine the cost-effectiveness of these strategies.

Materials and Methods: A cost-effectiveness model was constructed with TreeAge Pro (Williamstown, MA). We compared 6 strategies: Bi and Uni testing for both stage I (St1) and PNE, no treatment (NoTx), and combined stage I/II with no test phase (CoSt1/2). Outcomes were assessed for 54 months (average Interstim™ battery life). Since success was dependent on indication, the model was constructed with data from trials on refractory urgency/frequency and urge incontinence found using PubMed. Costs were derived from a societal perspective using Medicare physician fee schedules. State-specific quality-adjusted life years (QALY) were assigned using utility values. Model results were reported using incremental cost effectiveness ratios (ICER). Model robustness was assessed using probabilistic sensitivity analysis, where each variable was assigned a statistical distribution to account for its uncertainty. For outcome probabilities & utilities, we used beta distributions and gamma distributions for costs. Monte Carlo analysis (n=20,000) sampled these distributions to examine the effects of varying all values simultaneously.

Results: Outcomes are summarized in Table 1. Bi St1 was most expensive but also most effective. When compared to NoTx, no strategies were cost-effective other than Bi St1. CoSt1/2 was dominated by Uni St1 which was less expensive and more effective. Three strategies were excluded by extended dominance: Uni PNE, Bi PNE, Uni St1. Their ICERs were greater than the ICER of Bi St1, a more cost-effective strategy. Probabilistic sensitivity analysis showed Bi St1 was most likely to be cost-effective at willingness-to-pay (WTP) thresholds >$30,000/QALY (Figure 1). At WTP<$30,000/QALY, NoTx was more likely to be economically acceptable.

Conclusion: Bilateral stage I lead placement was the only cost-effective test phase strategy. In probabilistic sensitivity analysis, it was most likely to be considered cost-effective at all WTP thresholds >$30,000/QALY confirming model robustness.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Jonathan P. Shepherd: Grant recipient, Grant support totaling $2,000 for software package and computer monitor to complete the cost effectiveness model presented in this research. The grantor had no role in results, outcomes, or the way the analysis was performed

TABLE 1. Cost and Effectiveness of Interstim™ Test Phase Strategies

Strategy	Cost	Average Yearly Cost	Effectiveness (QALY)	Average Yearly QALY	Incremental Costs	Incremental Effectiveness	ICER (\$/QALY)
Do nothing	\$0	\$0	3.420	0.760	–	–	Reference Case
Unilateral PNE	\$18,787	\$4,175	4.036	0.897	*	*	*
Bilateral PNE	\$21,191	\$4,709	4.104	0.912	*	*	*
Unilateral Stage I	\$21,908	\$4,868	4.201	0.934	*	*	*
Combined Stage I/II	\$24,773	\$5,505	4.113	0.914	#	#	#
Bilateral Stage I	\$24,963	\$5,547	4.321	0.960	\$24,963	0.901	\$27,698

QALY= Quality Adjusted Life Years ICER=Incremental Cost Effectiveness Ratio PNE= Peripheral Nerve Evaluation *= Excluded by Extended Dominance, Incremental Cost and Effectiveness not Calculated #= Excluded by Simple Dominance, Incremental Cost and Effectiveness not Calculated

Oral Presentation 08
HOW DOES SHOULDER PRESSURE VARY AMONG DIFFERENT PATIENT-POSITIONING SYSTEMS WHILE PATIENTS ARE IN STEEP TRENDELENBURG?

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Objectives: Patient positioning is an important part of any operation. Shoulder braces provide a rigid back stop to prevent the body from sliding down as gravity exerts force on the torso during steep head-down tilt positioning. Nerve injuries, while rare, can occur due to the shearing force on the brachial plexus. The purpose of this study was to determine the pressure placed on the shoulders as a function of varying degrees of head-down tilt (Trendelenburg) and to compare these pressures among three different patient positioning systems.

Materials and Methods: Consenting participants were placed in the dorsal lithotomy position with arms tucked to their sides. Three support devices were used: the Skytron™ shoulder support (Grand Rapids, MI), the Allen shoulder support® (Allen Medical System, Acton, MA), and the Allen Hug-u-vac®. A manometer was placed between the patient's shoulder and each support device. We tilted participants at 0, 5, 10, 15, 20, 25, and 30 degrees of head-down tilt and measured the pressure on the shoulders in centimeters of water (cm H2O) at each angle. We repeated the measurements with each participant for all 3 devices.

A sample size of 20 was needed to show a 10 cm H2O difference between patient positioning systems with an a priori alpha level of 0.05 and a power of 80%. Pressure readings were compared using a paired t-test. ANOVA was used to determine if there was a significant difference in mean pressure transmitted to the shoulders among the 3 devices at 30 degrees head-down tilt. All statistical analyses were conducted with SPSS v. 19.0 (IBM/SPSS, Chicago, IL 2010), using an a priori alpha level of 0.05.

Results: At 30 degrees of Trendelenburg, the Allen Hug-u-vac® transmitted less pressure to the shoulders than the Skytron™ and the Allen® shoulder supports systems ($p<0.001$). The mean shoulder pressure from the Allen Hug-u-vac® was 17 ± 5.9 compared with the mean pressures of 33.9 ± 12.1 and 29.9 ± 9.9 from the Skytron™ and the Allen® shoulder support systems, respectively. Higher BMI was significantly correlated with greater mean pressure increase with the Skytron™ shoulder support ($r=0.456$); however, this difference was not seen with either the Allen Hug-u-vac® or with the Allen shoulder support® ($r=0.223$ and $r=0.179$, respectively). When asked which system was most comfortable, 74% of the participants reported that they preferred the Hug-u-vac® ($p<0.001$).

Conclusion: Of the 3 tested support systems, the Allen Hug-u-vac® transmitted less pressure to the shoulder at 30 degrees of Trendelenburg than the Skytron™ shoulder support and the Allen shoulder support® systems.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
The authors report no disclosures.

Oral Presentation 09
THE EFFECTS OF MAGNIFICATION ON DISTANCE ESTIMATION DURING ROBOTIC SUTURING

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Objectives: To better understand the impact of magnification on distance estimation during robotic surgery, we assessed surgeons' ability to accurately place sutures at specified distances during robotic surgical closure of a cystotomy.

Materials and Methods: All 17 subjects underwent robotic surgical training in a swine model, which included the repair of a 3cm cystotomy. Participants were instructed to begin the closure 10mm above and finish 10mm below the cystotomy incision. Guidance was given to place each suture 10mm from the previous stitch and 10mm from the incision edge. Participants were unaware their suture placement was being assessed. After training completion, the bladder was removed via laparotomy. The suture entry and exit sites were then marked, and the suture was removed. The marked suture sites were measured and recorded.

Results: A total of 17 subjects were analyzed; 8 fellows, 5 staff, and 4 residents. There was a mean of 3.8 (±4.2) years of experience after residency completion and a mean age 36.9 (±5.1) years. Five general gynecologists, 4 urologists, 2 urogynecologists, 3 gynecologic-oncologists, and 3 reproductive endocrinologists participated.

The mean distance between each suture was 6.11 mm (±1.45) 95%CI [-4.66,-3.12]. When comparing this to the ideal goal of 10mm, the difference was statistically significant ($p<0.001$). The mean distance from the suture to the incision was 3.98 mm (±0.96) 95%CI [-6.51,-5.53]. When comparing to the ideal goal of 10mm, the difference again was statistically significant ($p<0.001$). All 17 subjects scored consistently below the goal of 10mm for both suture and incision.

There was no correlation between the years of experience and suture distance ($r^2=0.04$, $p=0.47$), nor experience and incision distance ($r^2=0.23$, $p=0.06$). The same was true for level of expertise (resident, fellow, staff) (suture $p=0.86$, incision $p=0.21$). Further, there was no correlation with corrective lenses and none (suture $p=0.96$, incision $p=0.78$).

Conclusion: In vivo distances are significantly underestimated during robotic placement of sutures. This may contribute to various consequences, such as the increased vaginal dehiscence rates seen with robotic hysterectomies.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
The authors report no disclosures.

	Mean(±SD) mm	Suture	Mean(±SD) mm	Incision
Suture Distance (goal = 10mm)	6.11(±1.45)	$p<0.001$[a]	3.98 (±0.96)	$p<0.001$[a]
Experience		$p=0.47$[b]		$p=0.06$[b]
Level (resident, fellow, staff)		$p=0.86$[b]		$p=0.21$[b]
Corrective Lenses		$p=0.96$[c]		$p=0.78$[c]

[a]T-Test [b]Spearman's Rho [c]Mann-Whitney Test

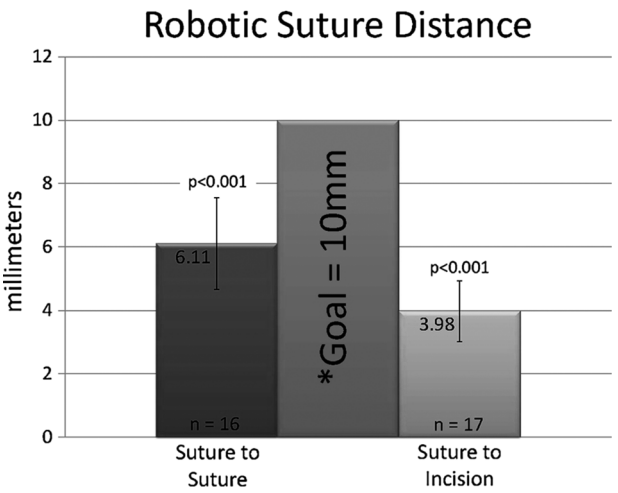

Figure 1. Robotic Suture Distance. The goal was to place the suture 10mm from the previous suture and 10mm from the edge of the incision. Left column (blue) is the distance from suture to suture. Right column (green) is the distance from each suture to the incision. *reference 10mm (T-Test)

Oral Presentation 10
THE EFFECT OF PELVIC ORGAN PROLAPSE ON ELASTIC FIBER HOMEOSTASIS AND THE SPHINGOSINE-1-PHOSPHATE/RHOA/RHO-KINASE SIGNALING PATHWAY IN THE HUMAN ANTERIOR VAGINAL WALL

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Objectives: Pelvic Organ Prolapse (POP) is a debilitating condition that affects more than 50% of women over the age of 40, yet the molecular basis for POP has not been fully elucidated. We have shown that both trauma and hormonal changes can regulate elastic fiber homeostasis in the rat vagina during delivery. The sphingosine-1-phosphate (S1P) cell signaling pathway regulates cell apoptosis and we have provided novel data that it also regulates contractility of smooth muscle (SM) in the lower urogenital system via the RhoA/Rho-kinase pathway. Thus the objective study of our study was to determine whether the expression of elastic fiber proteins and/or major components of the S1P/RhoA/Rho-kinase signaling pathway are altered in the vagina of women with POP.

Materials and Methods: Full thickness anterior vaginal wall specimens were obtained near the vaginal apex from women undergoing hysterectomy for benign gynecologic conditions other than POP or stress urinary incontinence (CTL; n=4) and from women having pelvic reconstructive surgery for POP (POP; n=6). Tissues were placed in ice-cold phosphate buffered saline and transferred to the laboratory for immediate freezing in liquid nitrogen.

Total RNA was extracted using TRIzol reagent, RNA concentration determined, total RNA reversed transcribed to cDNA and Real-Time polymerase chain reaction performed. The 2 Delta method was used to determine relative change in expression with results normalized to expression of β-actin and glyceraldehyde-3-phosphate dehydrogenase (GAPDH).

Results: Expression of the lysyl oxidase genes LOX & LOXL1 as well as FBLN5 were generally down regulated at 0.53, 0.28, 0.06 or 1.26, 0.73, 0.44 in POP vs. CTL when normalized to the expression of GAPDH or β-actin, respectively. In contrast, the expression of the three major S1P receptors (S1P1, S1P2, S1P3) were up regulated at 6.71, 6.34, 7.78 or 6.17, 5.83, 7.14 in POP when normalized to the same genes, respectively. In addition, the RhoA/Rho-kinase pathway of SM contraction (activated by S1P2 & S1P3 receptors) was also upregulated in POP with RhoA and the two Rho-kinase isoforms ROKα and ROKβ increased 3.06, 2.31, 2.18 or 3.46, 2.61, 3.30, respectively.

Conclusion: Down regulation of elastic fiber homeostasis would be expected to impair vaginal wall contractility. Our data suggests that strong up regulation of the three S1P receptors accompanied by an increase in the RhoA/Rho-kinase calcium sensitization contractile pathway may represent a compensatory response to maintain force. In addition, since increases in S1P have been linked to decreased apoptosis, this suggests and additional compensatory role for this pathway. Taken together, our data suggests the S1P/RhoA/Rho-kinase pathway as a novel area for future POP research and therapeutic development.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Ricardo Caraballo: Consultant, Honorarium
Karolynn T. Echols: Honorarium - Speaker, Consultant
Adam S. Holzberg: Honorarium - Speaker, Consultant
Allen D. Seftel: Honorarium - Consultant, editorial board

Oral Presentation 11
URINARY MARKERS AFTER CONTINENCE SURGERY (UMACS) STUDY

H. E. Richter[1], T. Chai[2], P. Moalli[3], S. Keay[2], J. Biggio[1], W. Zong[3], T. Curto[4], H. Kim[4], A. Stoddard[4] *[1]OB/GYN, University of Alabama at Birmingham, Birmingham, AL; [2]University of Maryland, Baltimore, MD; [3]University of Pittsburgh, Pittsburgh, PA; [4]New England Research Institute, Watertown, MA.*

Objectives: An improved understanding of the biological basis of outcomes following stress urinary incontinence (SUI) surgeries has the potential to benefit both surgeon and patient. Our objective was to characterize levels of pro-inflammatory and tissue remodeling biomarkers, indicative of increased bladder loading, in urine specimens preoperatively and 1 year post surgery. We also analyzed biomarkers predictive of surgical treatment success.

Materials and Methods: Urine specimens were obtained pre- and 1 year post-operatively in subjects participating in the Value of Urodynamic Evaluation (ValUE) trial. Briefly, women with uncomplicated stress predominant UI underwent a basic office assessment for SUI and were randomized to urodynamics versus no urodynamics with subsequent midurethral sling surgery. Clean catch urines were obtained, processed, and stored in a standard fashion at -80°C. Standardized ELISA, Luminex and activity assays to quantitate biochemical endpoints were performed in triplicate and normalized to urinary creatinine. Biomarkers measured included markers of tissue remodeling: total collagenase activity, MMP-1, MMP-2, MMP-9, MMP-13, NTx, EGF and HB-EGF; markers of inflammation: TNF-α, INF-γ, IL-1β, IL-6, IL-10, IL12p70, IL17 and NGF. Laboratory personnel performing these analyses were blinded to all clinical data. Paired t-tests were performed to compare biomarker levels baseline and 1-year postoperatively. Logistic regression models were utilized to examine the association of log-transformed baseline biomarker concentrations with surgical treatment success (defined by 70% decrease in UDI score, PGI-I score of 1 or 2 and a negative stress test).

Results: 150/630 ValUE subjects provided urine specimens for UMACS. There were no differences in the clinicodemographics and subjective success rates between these two populations, although UMACS subjects had a significantly higher objective success rate (92.7% versus 83.8%, $p<0.005$) as measured by stress testing. Only IL12p70 showed a significant change, decrease from 0.53±1.4 preoperatively to 0.28±.62 pg/mg Cr, 1 year postoperatively ($p=0.039$). Analysis of the relationship of baseline clinicodemographic covariates with baseline biomarkers using linear regression models with a Bonferroni correction showed that NTx levels were negatively associated with current estrogen use ($p=0.0001$; $\beta=-0.63$). Also, baseline estrogen exposure was associated with increased NTx levels postoperatively ($p=0.002$). Logistic regression models controlling for age testing the association between baseline biomarker levels and composite outcome demonstrated that subjects with lower baseline NTx were less likely to meet failure criteria (OR 0.49, 95% CI 0.26, 0.93, $p=0.03$).

Conclusion: There was a significant decrease in IL12p70 levels after continence surgery. Baseline NTx level, the N-terminal (amino) telopeptide of crosslinked Type 1 collagen, was predictive of outcome from midurethral sling surgery. Pathophysiologically this suggests that women with lower levels of collagen degradation had greater success following incontinence surgery; this knowledge may prove to be beneficial in counseling women regarding outcomes.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Toby Chai: Grant Clinical Trial Investigator
Susan Keay: DSMB member, consulting fee, Clinical Advisory Board member
Holly E. Richter: PI, Research Grant Consultant, Consultant Fee

Oral Presentation 12
LAPAROSCOPIC HYSTERECTOMY USING MONOPOLAR ENERGY IN SWINE- A HISTOPATHOLOGICAL ASSESSMENT OF ELECTROSURGICAL POWER

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Objectives: Within the past five years, there has been a shift towards minimally invasive hysterectomies utilizing laparoscopic and robotic techniques. In conjunction, vaginal cuff dehiscence has also appreciably increased. Vaginal dehiscence may result from many factors, including electrosurgery techniques. The purpose of this study is to assess the extent of vaginal tissue injury associated with the utilization of various monopolar electrosurgical power settings when performing the colpotomy.

Materials and Methods: This is an IACUC-approved prospective, paired, single blinded study. Swine vagina was transected using monopolar energy at 30, 50 and 80Watts in the cut mode with laparoscopic endoshears. Slides were prepared and stained with both H&E and Masson's trichrome. The samples were examined by two board certified veterinary pathologists, blinded to the power utilized.

Results: There were 14 swine and each animal was tested on all three power settings (n=42). When comparing the paired samples, there was no statistical significant difference in thermal injury (μm) at 30W (562.5 ±580), 50W (462.5 ±674) and 80W (412.5 ±512) ($p=0.371$). Individual groups were then compared to one another. When comparing 30W to 50W ($p=0.55$), 30W to 80W ($p=0.28$) and 50W to 80W ($p=0.47$), no statistically significant differences were observed.

For five of the swine, time for complete transection was available for each power setting (n=15). There was a statistically significant difference in the mean times (seconds) at 30W (36.9s), 50W (13.6s), and 80W (9.1s), overall ($p=0.008$). When the individual groups were compared to one another, the difference between 30W vs.. 50W ($p=0.06$) and 30W vs.. 80W ($p=0.06$) approached significance. There was not a statistically significant difference between 50W and 80W ($p=0.19$).

Conclusion: Using various power settings of monopolar energy does not appear to make a significant difference in vaginal tissue damage at the time of colpotomy. Therefore, using one monopolar setting over another is not likely to change vaginal dehiscence rates. We recommend using either 50 or 80W and not 30W, as this was shorter and therefore more efficient, but the distance of thermal injury did not differ.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

The authors report no disclosures.

Mean Transection Time (sec)

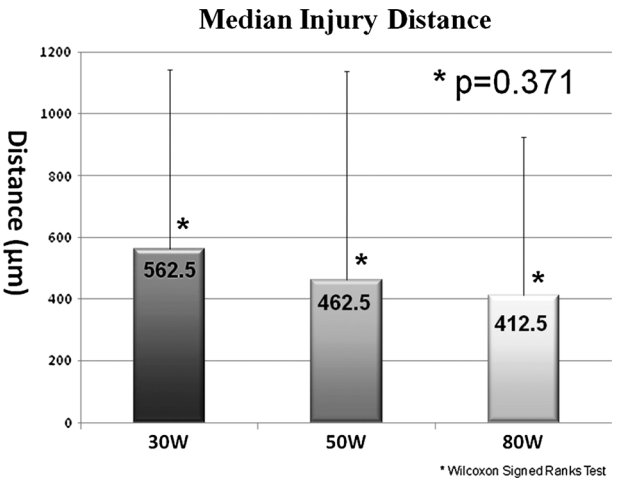
Power setting	Mean
30W	36.96 +/-5.2
50W	13.60 +/-6.2
80W	9.12 +/-5.3
30W vs. 50W	p=0.063*
30W vs. 80W	p=0.063*
50W vs. 80W	p=0.188*

* Wilcoxon Signed Ranks Test

Mean Transection Time (sec)

Power setting	Mean
30W	36.96 +/-5.2
50W	13.60 +/-6.2
80W	9.12 +/-5.3
30W vs. 50W	p=0.063*
30W vs. 80W	p=0.063*
50W vs. 80W	p=0.188*

* Wilcoxon Signed Ranks Test



Oral Presentation 13
POSTPARTUM TRANSLABIAL ULTRASOUND MEASUREMENTS OF THE ANAL SPHINCTER COMPLEX IN PRIMIPAROUS WOMEN DELIVERING BY VAGINAL DELIVERY VERSUS CESAREAN SECTION

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Objectives: Our aim was to describe 2D translabial (TL-US) of the internal anal sphincter (IAS), external anal sphincter (EAS) and puboviscerali muscle at 6 months postpartum among primiparous women and to compare these measurements between women who delivered vaginally (NVD) and underwent Cesarean section (CS).

Materials and Methods: We measured the sphincter thickness of the IAS at proximal, mid, and distal levels at the 3, 6, 9, and 12 o'clock positions, the EAS at the 3, 6, 9, and 12 o'clock positions, and the coronal transverse diameter of the puboviscerali muscle (PVM) bilaterally. Sphincters were noted as intact or partially disrupted.

Results: Seven hundred and eighty-two women consented to participate, with 448 women delivered by NVD and 243 by CS. There were eighteen 3rd degree and three 4th degree lacerations that were recognized and repaired. Of delivered women, 433 presented for postpartum 2D TL-US (286 in the NVD and 132 in the CS group). Women who underwent CS had thicker IAS measurements at the 12 o'clock position at all levels than women who underwent NVD (all p <.05); EAS and PVM measurements were not different (Table). On TL-US, 2 women in each group had EAS separation; 29 women in the NVD and 5 women in the CS group had IAS separations (all p = NS).

Conclusion: This study establishes normative values for anal sphincter complex measurements in postpartum primiparous women by TL-US. IAS separations were more common than EAS separations. Women who underwent CS had thicker IAS measurements at the 12 o'clock position.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
Rebecca Rogers: Data Safety Monitoring Chair for TRANSFORM Trial, Honorarium - Course instructor

TABLE. Mean Internal and External Anal Sphincter and Coronal Transverse Diameter Measurements of the Puboviscerali Muscle (mm)

	Mean measurement (mm) Vaginal Delivery	Mean measurement (mm) Cesarean Delivery	P-value
Proximal IAS thickness 12 O'clock	2.01±0.85	2.24±0.85	0.01
Mid IAS thickness 12 O'clock	2.09±0.75	2.29±0.82	0.02
Distal IAS thickness 12 O'clock	2.10±0.65	2.26±0.68	0.03
Distal EAS thickness 12 O'clock	2.18±0.87	2.03±0.75	0.09
PVM			
Right	6.90±1.63	7.14±1.55	0.18
Left	7.21±1.65	7.30±1.70	0.61

IAS=Internal Anal Sphincter EAS=External Anal Sphincter PVM=Coronal Transverse Diameter of Puboviscerali Muscle

Oral Presentation 14
PROLAPSE-RELATED KNOWLEDGE AND ATTITUDES TOWARDS THE UTERUS IN WOMEN WITH PROLAPSE SYMPTOMS

M. M. Good[1], N. Korbly[2], N. Kassis[3], M. L. Richardson[4], N. M. Book[5], S. Yip[6], D. Saguan[7], C. Gross[8], J. Evans[9], H. S. Harvie[10], V. Sung[2] *[1]University of Texas Southwestern Medical Center, Dallas, TX; [2]Women and Infants' Hospital of Rhode Island/Warren Alpert Medical School of Brown University, Providence, RI; [3]Indiana University Health/Methodist Hospital, Indianapolis, IN; [4]Stanford University School of Medicine, Palo Alto, CA; [5]Riverside Methodist Hospital, Columbus, OH; [6]Yale School of Medicine, New Haven, CT; [7]Emory University School of Medicine, Atlanta, GA; [8]Cleveland Clinic Florida, Weston, FL; [9]Christ Hospital, Cincinnati, OH; [10]Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA.*

Objectives: To describe basic knowledge about prolapse and attitudes regarding the uterus in women seeking care for prolapse symptoms.

Materials and Methods: This was an ancillary analysis of a multi-center, cross-sectional study through the FPRN. English speaking women who presented with prolapse symptoms between 5/2011 and 8/2012 were eligible. Women with prior hysterectomy were excluded. A self-administered questionnaire was given that included 5 prolapse-related knowledge items based on a previously validated questionnaire: 1)surgery is a treatment option, 2)pessary is a treatment option, 3)pelvic floor muscle exercises are a treatment option, 4)hysterectomy reduces risk of uterine cancer, 5)prolapse causes incontinence. Knowledge items were scored correct (score=1) or incorrect (score=0) and summed (range 0-5); higher scores indicated greater knowledge. Six attitude items constructed a benefit-of-uterus score: the uterus is important for 1)sexual function, 2)sense of self; and hysterectomy would 3)make her feel less feminine, 4)make her feel less whole, 5)worsen partner's sexual experience, and 6)worsen patient's sexuality. Attitude items were scored on a 5-point Likert scale, strongly agree to strongly disagree; higher scores indicated more positive perception of the uterus (range 6-30).

Associations of patient characteristics with knowledge and uterine attitude responses were obtained using Chi-square, Fisher's exact tests and ANOVA. Multiple linear regression was used to determine predictors of higher knowledge and attitude scores.

Results: 206 patients at 9 institutions participated; there were no missing responses. Mean age was 58.4 years, Patients were 90.4% Caucasian, 11.7% Hispanic, 5.6% Black, and 4% Other; 35% had high school education or below.

The overall mean knowledge score was 2.3 points, indicating on average only 46% of items were correctly answered. 81% responded that surgery was a treatment option for prolapse, 56% responded pessary was an option, 35% responded pelvic muscle exercises were an option, 43% responded that hysterectomy decreases uterine cancer risk, and 90% responded prolapse causes urinary incontinence. On multiple linear regression, prior FPMRS evaluation was associated with higher knowledge scores (beta .53, p=.003). There was a trend for higher education to be associated with knowledge

scores (beta .31, p=.07). However, on average even college-educated women answered less than 50% of questions correctly.

For attitude items, 47.6% disagreed with the statement "the uterus is important for sex", 60.2% disagreed that the uterus "is important for a sense of self"; 63.1% disagreed that hysterectomy "would make me feel less feminine" and 66.5% disagreed that hysterectomy "would make me feel less whole". On multiple linear regression, non-white race was associated with lower benefit-of-uterus attitude scores (beta -2.54, p=.02), and previous evaluation with FPMRS was associated with higher scores (beta 1.49, p=.04).

Conclusion: Overall prolapse-related knowledge is low in women seeking care for prolapse symptoms. The majority of women do not believe the uterus is important for body image or sexuality and do not feel that hysterectomy will negatively affect their sex lives.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: The authors report no disclosures.

Oral Presentation 15
PATIENT PREFERENCE FOR UTERINE PRESERVATION IN WOMEN WITH PELVIC ORGAN PROLAPSE: A FELLOW'S PELVIC RESEARCH NETWORK STUDY

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Objectives: To describe preferences for uterine preservation versus hysterectomy in women seeking care for pelvic organ prolapse and to determine whether preferences vary by geographic region.

Materials and Methods: This multi-center, cross-sectional study through the Fellow's Pelvic Research Network included women with prolapse symptoms presenting for initial evaluation between 5/2011 and 8/2012. Women who reported prior hysterectomy were excluded. Prior to meeting the physician, women completed a 35-item questionnaire designed to assess preference, attitudes, and knowledge regarding treatment options for prolapse. Preference for uterine preservation or hysterectomy was assessed with the following three scenarios for prolapse treatment: (1) treatment outcomes equal, (2) uterine preservation superior, and (3) hysterectomy superior. Responses included: (a) "strongly prefer/prefer to keep my uterus", (b) "strongly prefer/prefer to have my uterus removed (hysterectomy)", (c) "no preference" and, (d) "prefer physician-recommended treatment". Demographic and clinical information was collected. Differences in patient characteristics and preferences were determined using Chi-squared or Fisher's exact tests. A multivariable logistic regression was performed to identify predictors of preference for uterine preservation.

Results: 206 patients at 9 institutions were enrolled. Mean age was 58 yrs (SD 14). 90% were Caucasian, 6% Black, and 4% other races. 12% were Latina. 24% reported prior prolapse treatment and 28% had previously seen another specialist. 5% had Stage 0-1, 48% had Stage 2, and 47% had Stage 3-4 prolapse. Mean PFDI-20 score was 106 (SD 57).

In the scenario assuming treatment outcomes were equal, preferences were as follows: 40% uterine preservation, 19% hysterectomy, 29% physician-recommended treatment, and 16% no preference (p<0.001). Preference for uterine preservation differed by region (56% West, 40% Northeast, 29% South, 25% Midwest preferred preservation; p=0.02). In the scenario assuming uterine preservation was superior, preferences were 47% uterine preservation, 10% hysterectomy, 35% physician-recommended treatment, and 8% no preference (p<0.001), and this also differed by region (80% West, 51% Northeast, 38% Midwest, and 29% South preferred preservation, p=0.002). In the scenario assuming hysterectomy was superior, preferences were 21% uterine preservation, 36% hysterectomy, 33% physician-recommended treatment, and 10% no preference (p<0.01); this did not differ by region.

On regression, women in the South had decreased odds of preferring uterine preservation compared to the Northeast [OR 0.2, CI 0.05-0.77]. Women with at least some college education [OR 3.37, CI 1.21-9.40] and those who believed the uterus was important for sense of self [OR 26.3, CI 4.61-150.5] had an increased odds for preferring uterine preservation. Age and race were not significant predictors in this model.

Conclusion: The majority of women presenting with prolapse symptoms across the U.S. preferred uterine preservation if treatment outcomes were equal. Patient preferences varied by geographic region, patient education, and the belief that the uterus is important for sense of self.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: The authors report no disclosures.

Oral Presentation 16
GOAL ATTAINMENT IN PATIENTS THAT CHOOSE SURGERY VERSUS PESSARY FOR TREATMENT OF SYMPTOMATIC PELVIC ORGAN PROLAPSE

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Objectives: To compare self-described goal attainment between women who chose surgery (Surgery Group) compared to women who chose pessary (Pessary Group) for treatment of > Stage 2 symptomatic pelvic organ prolapse(POP).

Materials and Methods: New patients presenting for treatment of > symptomatic Stage 2 POP were recruited. All women were eligible and offered either surgical or pessary treatment for their POP. Women listed up to 3 treatment goals and completed the Pelvic Floor Distress Inventory (PFDI-20), Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire (PISQ-12) and Modified Body Image Scale (BIS) questionnaires. At 3 months follow-up, women were given a list of their initial goals and rated whether or not they had met their goals on a scale of 0 to 10 and completed the Patient Global Improvement Index (PGI-I). For 80% power and alpha of .05, a sample size of 29 women per arm was adequate to detect a 1.5 point difference (based on prior studies) between groups on a 10 point Goal Attainment Scale.

Results: One hundred women were recruited and gave baseline data; 80 women underwent treatment. Of treated patients, 30/38(79%) in the Pessary and 35/42(83%) in the Surgery Group gave both baseline and follow-up data. Groups did not vary in the nature of baseline goal setting or clinical characteristics; the mean age was 60.7 +/- 14 years for the Pessary Group and 61.4 +/- 11 years for the Surgery Group. The majority of subjects (48% Pessary Group and 58% Surgery Group) were Caucasian. PFDI-20 and mean prolapse stage was not different between groups (all p = NS). The Surgery Group reported lower PISQ-12 scores (25.4 + 9.4 vs.. 16.7 + 7.3, p = <.001) than the Pessary Group, otherwise, groups did not vary in baseline total questionnaire scores. The Surgery Group reported higher goal attainment for all 3 goals listed, higher PGI-I scores and more improvement on the PFDI-20 than the Pessary Group (all p <.05).(Table) Although both groups reported significant improvement in BIS and PISQ-12 scores, changes were not different between groups (all p = NS).

Conclusion: Women who chose surgery are more likely to attain their goals and report better global improvement than women who chose pessary for treatment of > Stage 2 POP.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Rebecca Rogers: Data Safety Monitoring Chair for TRANSFORM Trial, Honorarium - Course instructor

Comparison of 3 Month Goal Attainment and PGI scores between Groups

	Pessary group N=30 Mean score (SD)	Surgery group N=35 Mean score (SD)	p value
Goal 1	6.4 (3.0)	8.6 (1.6)	0.0005
Goal 2	6.3 (2.6)	8.6 (1.8)	0.0010
Goal 3	6.3 (3.3)	8.2 (2.2)	0.03
PGI-I	1.93 (0.8)	2.4 (1.1)	0.04

PFDI-20 Questionnaire changes from baseline and between group changes at 3 months

	Surgery group N = 35 (Mean change from baseline(SD))	Change from baseline for surgery group (p value)	Pessary group N=30 (Mean change from baseline (SD))	Change from baseline for pessary group (p value)	Change from baseline differences between Surgery and Pessary groups at 3 months (p value)
PFDI-20	-89.0(68.6)	<0.0001	-43.2 (79.8)	0.005	0.02

Oral Presentation 17

THREE-YEAR OUTCOMES OF A RANDOMIZED CLINICAL TRIAL OF VAGINAL MESH FOR PROLAPSE

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Objectives: The purpose is to present the 3-year outcomes of a double-blind, multicenter, randomized trial comparing vaginal prolapse repair with and without mesh.

Materials and Methods: This was a planned final analysis of women with stage 2-4 prolapse randomized to vaginal prolapse repair with native tissue or Prolift mesh. Three month and 1-year outcomes have previously been published. Our primary study outcome was anatomical cure of prolapse, defined as stage ≤ 1. Secondary outcomes included quality-of-life (QOL) using validated measures and complications. This analysis includes additional evaluations of anatomic, symptomatic, and combined cure rates for those with at least 3 year QOL data and 2 or 3-year postoperative blinded POP-Q examination. Subjects who underwent reoperation for recurrent prolapse were excluded from the analysis for further anatomic and subjective outcomes but were considered failures for combined outcome cure rates. Fisher exact test compared definition of cure between groups.

Results: 65 women were enrolled (32 mesh, 33 no mesh) before the study was halted due to a 15.6% mesh exposure rate. At 3 years, 51 (78%) had QOL data (25 mesh, 26 no mesh) and 41 (63%) had 2 or 3-year POP-Q exams. Length of follow up was similar for both groups, median 3.05 years (IQR 2.97, 3.15). Subjects who died (3), had recurrent prolapse requiring reoperation (3, all in mesh group), or were lost to follow-up (8) were censored. The only prolapse reoperation >1 year occurred in a woman who also had a prolapse reoperation <1 year postoperative. There were no new mesh exposures since the 1-year outcomes (3 total requiring surgical excision). There were no differences between groups at 3 years for POP-Q stage and individual POP-Q points. The majority in each group (90 and 86%) improved in stage from baseline to 3 years (p<0.01). Symptomatic improvement was observed with no differences in scores between groups at 3 years for the PFDI, PFIQ, and PISQ including the subscale scores. Cure rates did not differ between groups using a variety of definitions (see table). Anatomic cure was lowest for the anterior compartment and did not differ between groups [POP-Q stage ≤ 1 (13 (65%) mesh vs.. 9 (43%) no mesh, p=0.21) and those with no prolapse beyond the hymen (19 (95%) mesh vs.. 15 (71%) no mesh, p=0.09)].

Conclusion: At 3 years, cure rates and satisfaction after prolapse repair with and without mesh were high based on absence of prolapse beyond the hymen, lack of bulging symptoms and global impression of improvement (PGI-I). This study draws into question the long-term value of vaginal mesh compared to native tissue repairs. Subjects in the mesh group suffered complications unique to vaginal mesh without long-term benefit as there was no perceived difference in success between groups.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Eric R. Sokol: scientific advisor, stock options, principal investigator, grant to Stanford University

Definition of Cure	Mesh	No Mesh	P
A) POP-Q Stage ≤ 1	9/20 (45%)	9/21 (43%)	1.00
B) No prolapse beyond hymen	17/20 (85%)	15/21 (71%)	0.45
C) No bulge symptoms (PFDI#3=no)	23/25 (92%)	21/26 (81%)	0.42
D) PGI-I (very much better/much better)	22/25 (88%)	21/26 (81%)	0.70
E) No prolapse reoperation	20/23 (87%)	21/21 (100%)	0.23
F) Combined A + C + D + E	8/23 (35%)	8/21 (38%)	1.00
G) Combined B + C + D + E	15/23 (65%)	12/21 (57%)	0.76

Oral Presentation 18

BOWEL PREPARATION BEFORE VAGINAL PROLAPSE SURGERY: A RANDOMIZED TRIAL

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Objectives: To compare the surgical field acceptability of a standard bowel preparation to no bowel preparation prior to vaginal pelvic organ prolapse surgery.

Materials and Methods: This single-blind, randomized trial included women ≥19 years of age scheduled to undergo vaginal prolapse surgery with, at a minimum, a planned apical suspension and posterior compartment repair. Participants were assigned to one of two groups. The intervention group (bowel prep) was instructed to intake a clear-liquid diet the day prior to surgery and self-administer 2 saline enemas in the afternoon the day prior to surgery. Participants randomized to no intervention (no bowel prep) were allowed a regular diet the day prior to surgery. All participants were instructed to eat nothing after midnight the day of surgery. Surgeons were blinded to patient treatment assignment. The primary outcome was surgeon acceptability of the bowel preparation as measured on a 4-point Likert scale (1, excellent; 4, poor). Secondary outcomes included a self-administered patient satisfaction questionnaire (PSQ-"completely, somewhat, not at all") and bowel experience scores assessing the side effects and ease of completion of their bowel preparation. Chi-square and t-tests were used to compare categorical and continuous variables between the groups, respectively; non-parametric statistics were used when appropriate. A sample size of 150 subjects allowed detection of a 20% treatment difference between groups, with 80% power at the 5% significance level, given a reference rate of 87% for acceptable (excellent or good) bowel preparation.

Results: 150 women entered the trial with 75 enrolled in each arm. Demographic, clinical, and intraoperative characteristics were similar between groups. There were no differences in surgeons' acceptability of bowel preparation regimen (87.3% vs. 88.9%, p=0.78) for bowel prep versus no bowel prep, respectively. For assessment of the surgical field, the rectum was more likely to be considered empty in the bowel prep group versus no bowel prep group (83.5 % vs.. 66.7%, p= .02) with particulate formed stool less likely in the bowel prep group (11.4 % vs.. 25.4%, p = .03); with no differences noted in adequate visualization, issues with stooling, and difficulty in bowel handling (p>.05). Participants were less likely to report being completely satisfied in the bowel prep group (65.4% vs.. 95.2%, p <.01). Participants receiving the bowel prep were less likely to desire that form of bowel preparation in the future (89.6%, vs.. 98.4 %, p <.04) and were more willing to try a different one (85.7% vs.. 60.3%, p <.01) than those in the no bowel prep group. Those in the bowel prep group reported more distress, abdominal fullness/bloating with pain, sleep loss, fatigue, and anal irritation in comparison to those in the no bowel prep group (p<.01).

Conclusion: These findings demonstrate no advantage on surgical field acceptability with the use of a standard preoperative bowel preparation prior to vaginal prolapse surgery. Participants were more satisfied and suffered less side effects when allowed a regular diet. This information should prompt surgeons to evaluate the need of routine use of a bowel preparation and dietary changes for vaginal surgery.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Holly E. Richter: PI, Research Grant Consultant, Consultant Fee

Oral Presentation 19

EFFECTS OF PHYSICAL THERAPY ON QUALITY OF LIFE AND FUNCTION FOLLOWING VAGINAL RECONSTRUCTIVE SURGERY: A RANDOMIZED TRIAL

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Objectives: Vaginal reconstructive surgery is highly successful at restoring anatomic structure to the pelvic floor. However, the postoperative period may be complicated by pain, voiding complaints and bowel dysfunction. Pelvic floor physical therapy (PFPT) can be beneficial in treating these issues. Nevertheless, it is unknown whether routine use of PFPT following vaginal surgery provides greater benefit than standard care.

Materials and Methods: This randomized controlled trial assigned patients to PFPT or standard postoperative care following vaginal reconstructive surgery. Subjects in the PFPT arm received treatment with a specialized therapist 2 weeks preoperatively and 2,4,6,8,and 12 weeks after surgery, in conjunction with a physician encounter. Control subjects underwent a physician encounter alone at the same points postoperatively. Both groups completed POP-Q exams, pelvic floor surface electromyography (EMG), voiding diaries and validated questionnaires: The WHO

Quality of Life-Bref (WHOQOL-Bref), PFDI, PFIQ, SF-12, PISQ-12 and Female Sexual Function Index (FSFI) at baseline and 12 weeks post surgery. The primary outcome was change in the WHOQOL-Bref; our a-priori sample size calculation set a recruitment goal of 50 subjects.

Results: 57 women were recruited; 49 completed the study, 24 PFPT, 25 controls. Demographics at baseline were similar between groups. All condition-specific questionnaires showed improvements following surgery for the entire sample, confirming positive impact of treatment on pelvic symptoms. Nevertheless, no significant differences were noted based on treatment arm for any questionnaire. However, surface EMG measures were notably affected by group allocation. The PFPT group showed significantly lower averages across 4 measurements of rest and faster release times (Table), suggesting positive impact on muscle relaxation. Pearson's correlations revealed significant associations with better scores on the WHO-QOL physical domain and greater EMG relaxation 12 weeks following surgery, indicating a potential benefit from postoperative PFPT on quality of life.

Conclusion: Pelvic floor symptoms improve in all subjects following vaginal reconstructive surgery. Standardized PFPT was associated with lower resting averages and faster release times on EMG assessment. While there was no detectable difference in symptom questionnaires, findings may be limited by length of follow up and sample size. Future study may provide more information regarding positive impact of this intervention.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Rachel N. Pauls: Research funding, Scientific Advisory Board, Stock options

	Preop		12 week		Significance	
	PFPT	Control	PFPT	Control	Change from Preop to 12 week	Between Groups at 12 week
	Median (IQR)				P-value	
EMG						
Pre-protocol Resting Period Resting Avg, μV	1.7 (1.1, 2.2)	2.1 (1.3, 3)	1.35 (0.6, 1.8)	1.9 (1.4, 2.8)	.108	.006*
Rapid Contractions Phase Resting Avg, μV	1.85 (1.1, 2.8)	1.7 (1.2, 2.7)	1.2 (0.6, 1.9)	1.8 (1.3, 2.9)	.130	.005*
Work/Rest Phase Resting Avg, μV	1.8 (4.1, 3.4)	1.8 (1.2, 4)	1.2 (0.7, 2)	2 (1.3, 3.1)	.075	.003*
Post-protocol Resting Period Resting Avg, μV	1.5 (0.9, 2.8)	1.4 (1, 2.3)	1.0 (0.5, 1.9)	1.6 (0.9, 2.6)	.145	.049*
Work/Rest Phase Average Release, sec	1.35 (0.9, 3.6)	1.4 (0.8, 6.4)	0.9 (0.7, 1.4)	1.8 (0.8, 7.2)	.136	.009*

Oral Presentation 20

RISKS FOR VENOUS THROMBOEMBOLISM IN WOMEN UNDERGOING PELVIC RECONSTRUCTIVE SURGERY: A FELLOWS' PELVIC RESEARCH NETWORK STUDY

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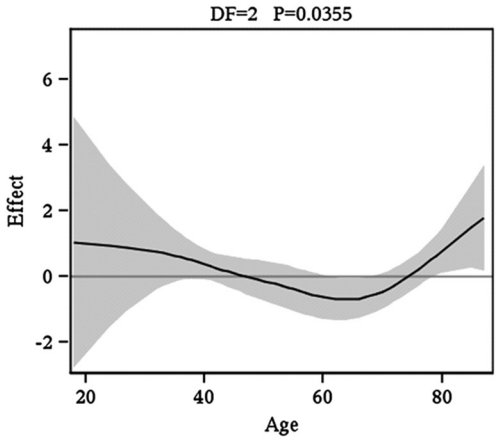
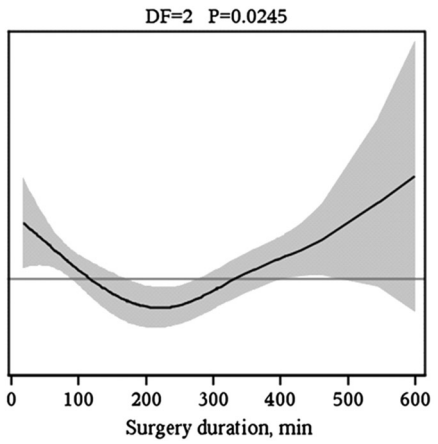
Objectives: To determine the incidence of symptomatic perioperative venous thromboembolism (VTE) and any risk factor(s) associated with increased risk of VTE in a large cohort of low-risk patients undergoing elective pelvic reconstructive surgery with perioperative mechanical VTE prophylaxis use only.

Materials and Methods: This was a multi-center, IRB approved case-cohort study. A retrospective review was performed using fellows' case logs and Health Information Management to identify patients who underwent elective urogynecologic procedures at 6 clinical sites from 2006-2011. Standard operative protocol at all sites utilized perioperative mechanical VTE prophylaxis with intermittent pneumatic compression devices placed before induction of anesthesia and continued until the time of discharge. Patients using pharmacologic anticoagulants (prophylactic or therapeutic) were excluded. VTE cases occurring during the same hospitalization and up to 6 weeks postoperatively were identified by ICD9 code query and case logs. The 2 preceding and 2 subsequent patients to the VTE case were identified as controls. Information collected included demographics, medical history, Charlson Comorbidity Index score, surgical approach, operative time and intraoperative blood loss. Univariate analyses were performed to identify potential risk factors for VTE. A multivariate analysis (backwards stepwise regression) was then completed, with continuous variables remaining in the model further evaluated using a cubic smoothing spline.

Results: 10,627 patients underwent elective urogynecologic surgery. The incidence of symptomatic perioperative VTE was 0.25% (27 cases). Univariate analysis identified surgical approach (laparotomy>others), type of surgery (major>minor), history of gynecologic cancer, increasing anesthesia/surgery time, and increasing age as significant risk factors for VTE in our study population (all p<0.05). Multivariate analysis demonstrated increased risk for VTE given laparotomy (vs.. other routes) (OR 5.4, 95%CI 1.2-24.4, p=.03), increased age (Chi-Square 6.7, p=.036), and surgery length (Chi-Square 7.4, p=.025); age> approximately 60 years and surgery duration >3.5 hours corresponded to increasing VTE risk (Figure). Patients with symptomatic VTE were more likely than controls to have higher mean EBL (469 vs.. 152 mL, p<.0001) and blood transfusion rate (29.6% vs.. 2.8%, p<.0001). The mean length of hospitalization for VTE patients was longer than controls (7.4 vs.. 1.3 days, p<.0001). The VTEs presented as PE (48%), both DVT and PE (37%), or DVT alone (15%). There was one death in the





VTE group but not directly related to her PE. VTEs were diagnosed on median day 3 postoperatively. Shortness of breath (48%) and tachycardia (22%) were the 2 most common presenting signs. Commonly used tests to diagnose VTE included chest CT angiogram (81%), chest X ray (59%) and lower extremity Doppler (56%).

Conclusion: The risk of symptomatic perioperative VTE in women undergoing elective pelvic reconstructive surgery using mechanical VTE prophylaxis is extremely low. Laparotomy, age>60 years, and surgery >3.5 hours were associated with increased risk in this cohort.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

The authors report no disclosures.

Oral Presentation 21

BARRIERS TO URINARY INCONTINENCE HEALTHCARE SEEKING IN WHITE, BLACK, AND LATINA WOMEN

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Objectives: Barriers to seeking healthcare for urinary incontinence (UI) exist, yet it is unclear how they differ based on race or ethnicity. Thus, we compared barriers to UI healthcare seeking between white, black, and Latina women.

Materials and Methods: We conducted a cross sectional study in white, black, and Latina women who were participating in focus groups regarding healthcare seeking behaviors. Women completed demographic information and the following validated questionnaires: Barriers to Incontinence Care Seeking (BICS-Q), Incontinence Quality of Life Instrument (I-QOL), and the Incontinence Severity Index (ISI). The BICS-Q is divided into 5 subscales (inconvenience, relationship, cost, site-related factors, and fear), with higher scores indicating more barriers to UI care seeking. Our primary outcome was perceived barriers to UI care seeking amongst our three groups, as measured by the BICS-Q. Secondary outcomes were factors associated with barriers to UI care seeking based on BICS-Q subscale scores.

Results: We included a total of 113 subjects (39 white, 41 black, and 33 Latina women). White and black women were significantly older than Latinas (48 vs.. 47 vs.. 38 years, respectively, p=0.01). Household incomes were significantly different amongst white, black, and Latina women with 50% vs.. 12% vs.. 0% (p<0.001), respectively, reporting incomes greater than $40,000 per year. Education levels were also significantly different in these groups (college degree in 82% vs.. 53% vs.. 16%, respectively, p<0.001). For our primary outcome, there was an overall difference in barriers based on BICS-Q scores across our three groups, p<0.001 (Table). This was mainly driven by a significant difference between Latina and white women (p < 0.001). In addition, all five BICS-Q subscale scores were significantly different amongst the three groups. Specifically, compared to white women, blacks and Latinas had higher barriers due to inconvenience (p=0.03, p<0.001 respectively), and blacks had more relationship barriers (p=0.02). Latina women had significantly more barriers due to cost (p=0.01), site-related factors (p<0.001), and fear (p=0.001) compared to white women, though these differences did not exist in black women. When adjusting for potential confounders such as age, income, education, presence of UI, ISI score, and I-QOL score, Latina women continued to demonstrate higher barriers compared to white women (p=0.001). There were no significant differences between black women compared to other groups in the adjusted analyses.

Conclusion: Latina women experience more barriers to UI healthcare seeking compared to white and black women. Latina women in particular perceive more barriers due to cost, healthcare site location, and fear.

	White	Black	Latina	P value
Total BICS-Q	2.6 ± 3.7	6.3 ± 8.2	10.4 ± 9.0	< 0.001
Inconvenience	0.4 ± 0.8	1.8 ± 2.6	2.7 ± 3.1	< 0.001
Relationship	0.6 ± 1.1	1.7 ± 2.5	1.5 ± 1.7	0.02
Cost	0.7 ± 1.7	1.2 ± 2.0	2.1 ± 2.5	0.02
Site-Related	0.1 ± 0.3	0.6 ± 1.3	1.7 ± 2.3	< 0.001
Fear	0.9 ± 1.4	1.2 ± 1.7	2.4 ± 2.2	0.001

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Nazema Y. Siddiqui: Symposium participant, Reimbursement for travel PI (no salary support), Research grant

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Oral Poster 01

COLPOCLEISIS: A PROSPECTIVE, MULTI-CENTER ANALYSIS OF BODY IMAGE, REGRET AND SATISFACTION FROM THE FELLOWS' PELVIC RESEARCH NETWORK

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Objectives: Treatment of severe prolapse with colpocleisis provides an alternative to traditional reconstructive procedures. However, some providers may be less likely to offer obliterative surgery as an option to their patients, possibly due to concern about patient regret. This prospective multi-center study, conducted through the Fellow's Pelvic Research Network, assessed change in body image, regret, and satisfaction following colpocleisis.

Materials and Methods: All women electing colpocleisis for management of their pelvic organ prolapse were screened for enrollment. Subjects with dementia or inability to comprehend survey questionnaires were excluded. The Pelvic Floor Incontinence Questionnaire (PFIQ), Pelvic Floor Distress Inventory (PFDI), and the modified Body Image Scale (BIS) were completed preoperatively and 6 weeks following surgery. The modified BIS was used to evaluate body image in the setting of prolapse. Additionally, the Decision Regret Scale (DRS) and the Satisfaction with Decision Scale (SDS) were administered at the 6 week postoperative visit. A sample size of 88 subjects was calculated to evaluate change in the BIS from baseline.

Results: To date 71/88 patients have completed their 6 week postoperative visit. The group's mean age was 79.4 (SD 6.0) years with a mean body mass index of 27.2 (SD 5.5). The majority (88.7%) was Caucasian and none were sexually active prior to surgery. A large percentage, 93.5%, had stage 3 or 4 prolapse on pelvic organ prolapse quantification exam. Preoperatively, the percentage of women having normal body image on all 8 items in the BIS was only 43.9%. Following surgery, this parameter increased significantly to 68.3% (p<.001). Pelvic floor symptoms based on the PFIQ and PFDI changed significantly from baseline. PFIQ scores for bladder (p<.001), bowel (p<.006), and pelvic (p<.001) symptoms, as well as PFDI scores in the Pelvic Organ Prolapse Distress Inventory (p<.001), the Colorectal-Anal Distress Inventory (p<.001), and the Urinary Distress Inventory (p<.001) all improved. At 6 weeks postoperatively low mean DRS scores (1.33, SD 0.60) were noted, signifying very little regret. Reflecting these changes, subjects' satisfaction with their decision to undergo colpocleisis was high, with a mean score of 4.75 (SD 0.48). In those subjects that expressed regret or dissatisfaction, the only contributing factor noted by patients was urinary symptoms.

Conclusion: This study shows that patients electing to undergo this procedure describe minimal regret and high satisfaction, while experiencing improved body image. It confirms that colpocleisis vastly improves pelvic floor related quality of life symptoms. Thus, colpocleisis is an excellent surgical option for correction of pelvic organ prolapse in women who are no longer sexually active.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Jacqueline A. Cunkelman: Investigator, Research Grant

Rachel N. Pauls: Research funding Research, Research funding Scientific Advisory Board, Stock options

Oral Poster 02

PREOPERATIVE EVALUATION OF LE FORT COLPOCLEISIS

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Objectives: Excess medical costs from unnecessary testing are under scrutiny and this will likely increase as the Affordable Health Care for America Act is fully implemented. Since there is no standard for the preoperative workup of women undergoing Le Fort colpocleisis, testing varies by physician. Our primary aim is to determine the quantity of un-indicated diagnostic evaluations performed on postmenopausal women at low-risk for cancer or dysplasia with uterovaginal prolapse undergoing Le Fort colpocleisis. Our secondary aim is to determine if these evaluations resulted in a diagnosis of ovarian, endometrial, or cervical pathology.

Materials and Methods: We performed a retrospective analysis of women undergoing Le Fort colpocleisis using the Explorys "Universe" database, comprised of EHR data from 85 hospitals, from August 30, 2000 to 2012. Women were identified using the CPT code 57120 for Le Fort colpocleisis. Patient charts from our institutions that met study criteria were reviewed to confirm coding accuracy. We excluded subjects with the ICD-9 diagnosis of post-hysterectomy vaginal vault prolapse (618.5) and vaginal wall prolapse (618.0) in order to accurately capture those with uterovaginal prolapse. We also excluded women with post-menopausal bleeding (627.1) since pre- or intra-operative diagnostic evaluation is indicated in these subjects. Appropriate ICD9 and CPT codes were queried to detect pre- and intra-operative evaluations as well as the diagnosis of ovarian, endometrial, or cervical pathology.

Results: There are 1,215,170 active adult females in the database during the 12 year time period. Of these women, 360 underwent a Le Fort colpocleisis. After excluding post-hysterectomy vault prolapse, vaginal wall prolapse, and post-menopausal bleeding, 230 women remained. The majority were greater than 65 years old (91%) and Caucasian (82%). Obesity was present in 43% (26% class I, 8% class II, 8% class III). Thirty patients (13%) underwent preoperative diagnostic procedures while 60 (26%) underwent intra-operative diagnostic procedures (primarily dilation and curettage). (Table 1) For those undergoing preoperative procedures, too small to quantify were diagnosed with a malignant neoplasm or cervical dysplasia and none were diagnosed with endometrial hyperplasia. For those undergoing intra-operative procedures, none were diagnosed with malignant neoplasm post-operatively. Sixty-seven percent (n=20) of preoperative procedures diagnosed benign ovarian (i.e. atrophic ovaries or cysts) and uterine (i.e. atrophy or fibroids) conditions.

Conclusion: Women 70 and older are at low risk for developing endometrial cancer (1.23%, 1 in 81) and cervical cancer (0.19%, 1 in 552) based on the 2010 cancer statistics. Our study discovered that 39% (n=90) of low-risk patients undergoing Le Fort colpocleisis had unnecessary diagnostic testing (13% preoperative and 26% intra-operative). Such procedures are costly and can cause the patient distress and discomfort. Results of these procedures revealed a negligible incidence of malignancy. Cost-effective medicine should be practiced in low-risk elderly women who desire LeFort colpocleisis.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: The authors report no disclosures.

TABLE 1. Pre and intra-operative testing of women undergoing Le Fort Procedure

Preoperative Testing	Number of Patients
Pap Smear	20
Endometrial biopsy and or colposcopy	Too small to quantify
Dilation and Curettage	Too small to quantify
Hysteroscopy	Too small to quantify
Ultrasound	10
Intra-operative Testing	**Number of Patients**
Dilation and Curretage or Hysteroscopy	60

Oral Poster 03

STANDARDIZATION OF LAPAROSCOPIC PELVIC EXAMINATION: A PROPOSAL OF A NOVEL SYSTEM

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Objectives: Laparoscopic pelvic assessment is often performed in a non-standardized fashion depending on the surgeon's discretion. Reporting positive or negative findings is random and lesions in atypical locations such as anterior and posterior cul-de-sac, deep inguinal rings and ovarian fossa may be missed and patient care would be less than optimal. The objective of this study is to propose a method for systematic pelvic assessment based on anatomical landmarks.

Materials and Methods: The pelvis will be topographically divided into 2 midline zones (Zone I&II) and 2 paired (right and left) lateral zones (zone III&IV). Zone I is the area between the 2 round ligaments from their origin at the uterine cornua to their insertion in the deep inguinal rings. Zone II is the area between the 2 uterosacral ligaments from their origin from the back of the uterus to their insertions in the sacrum posteriorly. Zone III is the area between the uterosacral ligament inferiorly and the entire length of the fallopian tube and the infundibulopelvic ligament superiorly. Zone III contains the tubes and the ovaries. Zone IV is the triangular area lateral to the fallopian tube and the infundibulopelvic ligament and medial to the external iliac vessels up to the round ligament (Figure I). To validate this classification, we applied this system on the operative reports of 540 patients who underwent diagnostic or operative laparoscopy for the diagnosis of unexplained infertility between January 2006 and January 2012. The operative reports for these patients were reviewed with allocation of the reported positive or negative findings to the respective zones. All reports were evaluated for the comprehensiveness of the description with respect to normal findings or pathology for each zone.

Results: From a total of 540 patients, all commented on the uterus, tubes, and ovaries (100%) which reflect in part zone I and part of zone III. Only 17% (93/540) commented on the dome of the bladder and the anterior cul-de-sac (the remainder of zone I). 24% (130/540) commented on the posterior cul-de-sac which represents a part of zone II. Interestingly, only one fourth of those who addressed zone II (6%; 34/540) commented on the rectosigmoid. Moreover, 5% (29/540) commented and the pelvic side wall peritoneum without specifying whether the ovarian fossa and the peritoneum overlying zone IV were evaluated. Overall, only 6% (34) reported either positive and/or negative findings in the different pelvic zones giving a near complete documentation of the presence of absence of pelvic findings.

Conclusion: Description of important pelvic structures is frequently missing in operative notes from diagnostic and operative laparoscopy. Implementation of a systematic approach for laparoscopic pelvic examination will enhance the diagnostic accuracy, help diagnose lesions in anatomically challenging locations and provide the required standardization with its clinical and academic advantages. Photographic documentation of these anatomic regions would provide an additional advantage. We recommend a minimum of 6 photographs of the 6 pelvic zones in the absence of pelvic pathology.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: James Liu: Advisory Board, Honorarium - Consultant

Oral Poster 04

PREGNANCY OUTCOMES FOLLOWING ROBOTIC MYOMECTOMY

L. G. Rascoff, M. N. Egbuniwe, N. Astill, C. J. Ascher-Walsh *OB/GYN, Mount Sinai School of Medicine, New York, NY.*

Objectives: To assess fertility rates and pregnancy outcomes in patients who had a robotic myomectomy with a single surgeon at Mount Sinai Hospital in New York City from June 2006 to December 2011.

Materials and Methods: This is a retrospective case series of 266 premenopausal women with symptomatic uterine fibroids who underwent robotic myomectomy with a single surgeon. As part of the surgeon's routine postoperative care, patients were called to obtain follow up information on pregnancies. Medical records were reviewed.

Results: The 266 women had a median age of 37 years (range 24-55), median BMI 24 kg/m2 (range 17.2-56.6), median number of fibroids removed 2 (range 1-21), and median weight of fibroids 250 grams (range 8-2450), table 1. Of

Group	Median Age (yrs)	Median BMI (kg/m2)	Median Surgical Time (min)	Median EBL (ml)	Median Number of Fibroids	Median Weight of Fibroids (g)
All Women (n=266)	37 (Range 24-55)	24.9 (Range 17.2-56.6)	145 (Range 37-331)	150 (Range 20-1700)	2 (Range 1-21)	250 (Range 8-2450)
Women with follow-up data (n=150)	37 (Range 25-50)	24.2 (Range 18-56.6)	153 (Range 68-331)	200 (Range 25-1700)	2 (Range 1-18)	264 (Range 16-2000)
Women with infertility pre-op (n=37)	40 (Range 29-49)	24 (Range 19.8-35.9)	138 (Range 71-243)	100 (Range 50-1100)	2 (Range 1-15)	190 (Range 16-700)
Women who tried for pregnancy post-op (n=71)	37 (Range 25-48)	24.9 (Range 19.2-56.6)	140 (Range 71-300)	200 (Range 50-1100)	2 (Range 1-15)	216 (Range 16-1625)

these women, 150 (56%) were successfully contacted. Follow-up from time of surgery to most recent charted data ranged from 6 months to 5.5 years. Of the 150 women with follow-up data, 71 (47%) women actively tried for pregnancy after surgery. 51 women (72%) of the 71 achieved a total of 57 pregnancies – 22 full term deliveries, 7 preterm, 18 spontaneous abortions, 9 ongoing pregnancies and 1 termination. There was one pregnancy complicated by a cesarean-hysterectomy secondary to a placenta accreta. There were no cases of uterine rupture. A subset of 37 women had known infertility prior to surgery. After surgery, 22 out of 37 women (59%) achieved 28 total pregnancies – 11 full term deliveries, 5 preterm, 9 spontaneous abortions, 2 ongoing pregnancies, and 1 termination. 25 pregnancies were conceived with assisted reproductive technology and 3 were spontaneous. Of the 15 infertility patients who did not achieve pregnancies, 12 eventually stopped trying (2 adopted) and 3 patients did not try after surgery (1 adopted).

Conclusion: The fertility rate after robotic myomectomy for all women attempting to conceive was 72%. The fertility rate for those with known infertility who continued to try for pregnancy postoperatively was 59%. There was one pregnancy complicated by placenta accreta and no cases of uterine rupture.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
The authors report no disclosures.

Oral Poster 05

MANAGEMENT OF VESICOVAGINAL FISTULAE: A MULTICENTER REVIEW FROM THE FELLOWS' PELVIC RESEARCH NETWORK

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Objectives: In the developed world, vesicovaginal fistulae (VVF) are commonly acquired due to complications of gynecologic surgery. Currently, we lack a standardized approach for treatment of this disabling diagnosis. While conservative management is often suggested as first line therapy, it is unclear how often this strategy is successful. The purpose of this multicenter study was to describe practice patterns for treatment of VVF in the United States.

Materials and Methods: This was an IRB approved multicenter retrospective study with 12 participating sites. Cases were identified using CPT codes for VVF from July 2006 until June 2011. Data collected included demographics, past medical and surgical history, presenting complaint, method of diagnosis, and cause of VVF. Type (simple, complex), location and size (tiny, small, medium, large) of VVF, management, and postoperative sequelae were recorded. Descriptive statistics, Chi-square and Pearson's correlation were calculated as appropriate.

Results: 177 charts were included. The mean age was 49 (SD 14) years and mean BMI was 29 (SD 8). The majority were post-menopausal (53.2%), non-smokers (58.4%), and Caucasian (77.3%). Benign gynecologic surgery was the cause for most VVF (77.8%) followed by pelvic radiation (9.1%) and oncologic surgery (6.8%). The predominant type of antecedent hysterectomy was abdominal (68.5%). The majority of VVF identified were simple (77%), small (58.3%), and located in the trigone (32.3%) or bladder dome (28.7%).

Twenty-three percent (41/177) were initially managed conservatively with catheter drainage for a median duration of 27 days. Of these, only 7.7% (3/41) resolved. Most VVF treated expectantly were simple (89.5%, p=0.03), small (76.5%, p=NS), and in the bladder dome (33.3%, p=NS). Subsequent failures were treated surgically with 47% (18/38) by a vaginal approach (68.8% simple excision and 31.3% Latzko) and 29% (11/38) by an abdominal approach. 77% (136/177) of subjects were initially treated with surgical management: 40% (54/136) vaginally (30.4% simple excision and 22.2% Latzko) and 13% (18/136) abdominally. 78.6% (107/136) of VVF treated surgically resolved.

Postoperatively, 48% received anticholinergics and 94% required a catheter. The median duration for postoperative catheterization was 21 days (suprapubic) and 14 days (transurethral).

Conclusion: This multicenter study illustrates the majority of simple VVF are managed surgically and a large number will resolve without a second surgery. Of note, most VVF initially managed conservatively by catheter drainage remained unresolved. Prospective investigation is warranted as our study suggests immediate surgical intervention of simple VVF may be of benefit to the patient.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
Rachel N. Pauls: Research funding Research, Research funding Scientific Advisory Board, Stock options

Oral Poster 06

VARIABLES ASSOCIATED WITH VAGINAL FISTULA IN KIGALI, RWANDA

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Objectives: Vaginal fistulae frequently cause morbidity in the developing world. Obstructed labor and iatrogenic injuries are risk factors with obstructed labor predominating in developing countries. The primary objective of this study is to epidemiologically characterize women undergoing surgical correction of vaginal fistula by the International Organization for Women and Development (IOWD) in Kigali, Rwanda. A secondary objective is to compare women who underwent a cesarean delivery immediately prior to symptoms of fistula with women whose symptoms developed after vaginal delivery.

Materials and Methods: This is a cross-sectional study of all women who underwent vaginal fistula repair by the IOWD during three, two week surgical missions from 4/2010-2/2011. The IOWD is a non-profit organization of American physicians dedicated to vaginal fistula repair. Exclusion criteria

included surgery for an indication other than vaginal fistula. The IOWD uses standardized forms to collect history and physical exam information. Patient histories are obtained with assistance from Rwandan medical providers. All physical exams are completed by IOWD physicians. These forms were abstracted for demographic and clinical data. Descriptive statistics were used to describe characteristics of patients. Student t-tests were used to compare between group differences.

Results: A total of 65 women underwent fistula repair during the study period. The mean age was 37 (+/-10) years, median gravity and parity were 3 (range 1-12) and 1 (range 1-7) respectively. 54% of women were married and 25% were separated or divorced. With regard to fistula type, 48% were vesicovaginal, 22% rectovaginal, 14% urethrovaginal, 12% vesicocervical, 11% bladder neck and 6% vesicouterine.

48% of women reported they developed symptoms of fistula after a cesarean delivery and 52% cited a vaginal delivery as the precipitating event ($p>0.05$). There was no difference in age, gravity, parity, history of infectious illness, marital status or age at first delivery between women who developed symptoms after a cesarean delivery and those whose symptoms developed after vaginal delivery (p value for all >0.05).

When comparing women who developed fistula symptoms after cesarean delivery to those with symptoms after vaginal delivery, a higher proportion delivered in a hospital (100% vs. 53%, $p<0.0001$) and reported previous hysterectomy (32% vs. 6%, $p=0.006$). Type of fistula was associated with route of delivery with a greater number of vesicocervical and vesicouterine fistula (9 vs. 3, $p=0.04$) and fewer rectovaginal fistula (2 vs. 12, $p=0.006$) occurring after cesarean delivery compared to vaginal delivery. There was no difference in the number of fetal or neonatal deaths between women with fistula symptoms after cesarean versus after vaginal delivery (74% vs. 59%, $p=0.2$).

Conclusion: In our study population, 48% of women reported symptoms of fistula following cesarean delivery. These women were more likely to have delivered in a hospital, report a history of hysterectomy, and have a fistula involving the uterus or cervix. There was no difference in fetal or neonatal death in women who developed a fistula following a cesarean compared to after a vaginal delivery.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

The authors report no disclosures.

Oral Poster 07

PATIENT PREFERENCES FOR DIFFERENT TYPES OF ABDOMINAL INCISION USED FOR PELVIC ORGAN PROLAPSE SURGERY AND THE FACTORS THAT INFLUENCE THESE PREFERENCES

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Objectives: The three surgical approaches for performing sacrocolpopexy (laparotomy, laparoscopy and robotic) differ with regard to length of surgery, post-operative pain and cosmetic appearance of skin incisions. The aim of our study is to better understand what factors influence patient preferences of surgical approach.

Materials and Methods: This is a descriptive study using a survey. Inclusion criteria were: females ≥ 18 years old scheduled for an appointment at private Gynecology offices and resident clinics at Mount Sinai Hospital. Participants were given a survey which included photos of patient incisions 6 weeks post operatively along with a schematic representation of an unscarred abdomen marked with lines to indicate the location and number of incisions for each of the surgical approaches. Laparotomy was a 6cm Pfannenstiel incision, traditional laparoscopy included 3 port sites and robotic assisted laparoscopy included 5 port sites. They were asked to rank the incisions in order of preference based on appearance only. They were next given varying clinical scenarios associated with each surgical approach (length of surgery, length of hospital stay, number of days requiring pain medications) and asked if their preference of incision changed. A sample size of 90 subjects was needed in order to detect a 30% difference in incision preference based on appearance with an alpha of 0.05 and 80% power.

Results: 98 patients completed the survey. Demographic data is as follow: mean (SD) age 41 (12.7), race: Caucasian 31.6%, African American 32.6%, Asian/Pacific Islander 6.3%, Hispanic 22.1%, other 7.4%. Based on cosmetic appearance alone 75% chose laparoscopic surgery, 19.8% chose open and 5.2% chose the robotic approach. The majority of the subjects did not change their incision preference based on different scenarios of post-operative pain (60.8%), hours under anesthesia (62.1%) and length of hospital stay (71.6%). 55.9% patients would find another doctor to perform surgery with the incision type they preferred if their own doctor did not feel comfortable doing their preferred surgery. When asked to rank factors they felt were most important, 53.9% ranked complication rate as number one, 32.6% felt where the surgeon was in the process of learning the procedure was most important, 8% felt incision number and appearance were most important, 5.7% ranked length of hospital stay and 3.4% ranked number of days with pain post operatively as number one.

Conclusion: Our study shows that most patients prefer the laparoscopic approach based on cosmetic appearance and that this preference did not change for the majority of patients based on length of hospital stay, length of surgery or anticipated number of days with post-operative pain. Interestingly, however, when asked to rank factors in order of importance, complication rate and how long the surgeon has been performing the procedure were ranked as most important while incision appearance and length of hospital stay were ranked least important. Gaining a better understanding of factors most important to patients can help physicians better counsel patients regarding surgical options.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Alan D. Garely: Honorarium - Speaker
Michael D. Vardy: Honorarium - Speaker

Oral Poster 08

THE WAY THEY SEE IT: PATIENTS' PERSPECTIVES OF PERIOPERATIVE EVENTS

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Objectives: Despite a thorough preoperative informed consent discussion, patients often perceive perioperative medical events thought of as routine by surgeons to be bothersome complications. The primary aim of this study was to examine how women undergoing gynecologic (GYN) surgery perceive perioperative events and the severity of events. Secondary aims were to compare perceptions of perioperative events between women undergoing elective and non-elective GYN surgery.

Materials and Methods: A group of expert surgeons created 66 perioperative scenarios associated with GYN surgery, which were modified after receiving patient focus group input. Scenarios were sub-grouped in 17 broader categories (e.g. change in route of access, vascular injury, etc). After informed surgical consent was obtained, women undergoing benign, urogynecologic (FPRMS), or oncologic (ONC) GYN surgery at Loyola University Medical Center were invited to participate. Consenting participants completed a written survey prior to undergoing surgery. Participants rated whether they thought each perioperative scenario was a complication and then rated the severity of complications on a scale of 1-100. The respondents were divided into two groups based on whether they underwent elective (benign or FPRMS) or non-elective (ONC) surgery.

SPSS version 20 was used to calculate means, standard deviations, intraclass correlation coefficients (ICC), and coefficients of variability (Cv) for severity rankings of each scenario within and among patient groups. Independent t-tests were performed to compare complication and severity means across elective and non-elective groups as well as FPRMS and non-FPMRS groups.

Results: One hundred-eight women completed the survey. Thirty-four percent (n=37) were undergoing FPMRS, 17% (n=18) were benign, and 49% (n=53) ONC surgery. Fifty-five women had 'elective' and 53 'non-elective' surgery. Respondents rated certain perioperative events thought of as routine by surgeons to be complications such as post-operative constipation (27%) and post operative fatigue (18%). Patients undergoing 'elective' surgery classified conversion from hysteroscopy to laparoscopy, hysteroscopy to laparotomy, scenarios involving suture/mesh erosion, post-operative pain, and repeat operation for any event/condition related to their surgery as complications more frequently than those having 'non-elective' surgery (51% vs.. 36%, $p=0.03$; 67% vs.. 57%, $p=0.04$; 65% vs.. 47%, $p=0.03$; 22% vs. 13%, $p=0.02$; 87% vs.. 79%, $p=0.03$). Interestingly, patients having FPMRS surgery rated discharge from hospital with a urinary catheter and postoperative urinary tract infections as less severe complications than patients having benign or ONC surgery (22 vs. 43, $p=0.040$; 16 vs.. 25, $p= 0.006$).

Conclusion: After undergoing routine pre-operative consent, many women classified routine postoperative events such as pain or constipation as complications. Not surprisingly, women having elective GYN surgery perceived certain complications as more severe than those having non-elective, cancer surgery.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
The authors report no disclosures.

Oral Poster 09
DEFINING PATIENT KNOWLEDGE AND PERCEPTIONS OF VAGINAL MESH SURGERY

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Objectives: Recent information from the FDA and on TV may have impacted patient awareness of vaginal mesh surgery and its risks. We sought to evaluate and quantify that exposure and its effect on future treatment.

Materials and Methods: An anonymous survey was distributed to new patients presenting to the Urogynecology and Female Urology clinics during April-June 2012. The survey assessed patient demographics, beliefs about mesh surgery, sources of information and level of concern regarding possible mesh surgery (0-10 Likert scale with 0=not worried, 10=very worried). Descriptive analyses as well as Fisher's test, dichotomous and logistic regressions were conducted. The initial question asked if women had heard anything about vaginal mesh surgery; women who answered no did not complete the survey.

Results: 164 women completed the survey in this convenience sample. Nearly two-thirds (102/164, 62.2%) indicated having heard about mesh surgeries for prolapse and/or incontinence, and were included in subsequent analyses. Mean age was 58.0±12.5 years (range 29-94), and 24.5% indicated prior mesh surgery. The mean level of concern regarding mesh surgery was 5.7 ± 3.3.

The most common visit reason was incontinence and/or prolapse (86.3%). The most common source of information about mesh was TV commercials (57.8%); less than one-fourth (23.5%) reported receiving information from a medical professional.

Participants indicated being aware of the following issues regarding mesh surgery: causes pain (47/102, 47.1%), class-action lawsuit in progress (55/102, 54.0%), "my body might reject" the mesh (35/102, 34.3%), possible allergic reaction (30/102, 29.4%), can cause bleeding and become exposed vaginally (30/102, 29.4%), should be removed immediately from the body due to a recall (28/102, 27.5%), and has been taken off the market (24/102, 23.5%). Nine women (8.8%) said mesh causes cancer. "My body might reject the mesh" (p=0.01), possible bleeding/exposure (p=0.003), and possible higher success (p=0.01) were more commonly cited by those who got information from a medical professional.

Women who had previously had mesh surgery were more likely to be aware of a class-action lawsuit (p=0.01) and to think mesh can result in a higher success rate (p=0.03).

Concerning future care, 8.5% (8/94) indicated that the information they got prior to their visit would mean they would want to avoid surgery completely, while 22.1% (19/86) indicated they would not consider surgery using mesh.

On multivariate regression, a higher level of concern regarding mesh surgery was the only independent predictor of aversion to any future surgery (p=0.02). Level of concern (p=0.001), information from friends/family (p=0.01), and knowledge of a class-action lawsuit (p=0.008) were independent predictors of aversion to future mesh surgery. Having heard about a class-action lawsuit (p=0.001) or "my body might reject the mesh material" (p=0.03) were independent predictors of higher level of concern regarding mesh surgery.

Conclusion: More than half of new patients presenting for urogynecology care had prior knowledge of vaginal mesh, and level of concern about vaginal mesh surgery impacted willingness to undergo any future surgery.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
John O. DeLancey: Investigator, Research contract with U of M

Oral Poster 10
PRACTICE PATTERNS OF GENERALISTS VERSUS SPECIALISTS FOR CONCOMITANT APICAL SUSPENSION AT TIME OF VAGINAL HYSTERECTOMY FOR PROLAPSE

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Objectives: The primary aim is to determine the current practice patterns of generalists versus specialists for surgical correction of uterovaginal prolapse. Our hypothesis is more pelvic floor specialists perform concomitant apical suspensions at the time of initial vaginal hysterectomy (TVH) for prolapse compared to general gynecologists. Furthermore, the use of a concomitant apical suspension at the time of index vaginal surgery for prolapse will reduce the rate of recurrence and re-surgery.

Materials and Methods: Retrospective analysis of the EXPLORYS network database from the MedStar Health system from years 1999-2012 for women undergoing vaginal hysterectomy for uterovaginal prolapse. Appropriate ICD-9 for uterine prolapse (618.1), incomplete uterovaginal prolapse

TABLE 1. Procedure performed based on surgeon type

Procedure	Number of patients operated on by General Gynecologists % (N)	Number of patients operated on by Urogynecologists % (N)	P value
TVH	72% (305)	4% (17)	<0.0001
TVH + Non-apical Repair	17% (73)	19% (90)	
TVH + Apical Repair	10% (43)	78% (372)	

TABLE 2. Procedure perfomed base on diagnosis broken down for General Gynecologists and Urogynecologists

	Uterine prolapsed % (N)	Incomplete prolapse % (N)	Complete Prolapse % (N)	Uterine Incomplete Prolapse % (N)	Uterine Complete Prolapse % (N)	Incomplete Complete Prolapse % (N)	All three Diagnosis % (N)
TVH	81%(292)	24% (5)	21% (3)	29% (4)	0% (0)	0% (0)	33% (1)
TVH + nonapical	13% (45)	48% (10)	36% (5)	43% (5)	57% (4)	100% (2)	33% (1)
TVH + apical	6% (23)	29% (6)	43% (6)	29% (4)	43% (3)	0% (0)	33% (1)
Total with the diagnosis	360	21	14	14	7	2	3
Urogynecologists							
	Uterine prolapsed % (N)	Incomplete prolapse % (N)	Complete Prolapse % (N)	Uterine Incomplete Prolapse % (N)	Uterine Complete Prolapse % (N)	Incomplete Complete Prolapse % (N)	All three Diagnosis % (N)
TVH	3% (1)	5% (7)	0% (0)	3% (4)	6% (1)	4% (3)	2% (1)
TVH + nonapical	8% (3)	20% (30)	41% (7)	13% (17)	18% (3)	27% (21)	20% (9)
TVH + apical	89% (32)	76% (114)	59% (10)	84% (113)	76% (13)	69% (54)	97% (36)
Total with the diagnosis	36	151	17	134	17	78	46

(618.2), and complete uterovaginal prolapse (618.3) along with CPT codes were included in the analysis to determine frequency of TVH alone, TVH plus non-apical repair, and TVH plus repair with apical suspension. Statistical analysis was performed using Chi-square and Fisher's exact.

Results: A total of 946 patients underwent surgery during this time period. Follow-up was 2000 days after index procedure. Of these women, 35% (n=334) underwent TVH alone, 19% (n=184) TVH plus non-apical repair, and 45% (n=428) TVH plus repair with apical suspension. The mean age at index procedure was 55. Performing these procedure in the Medstar system are 79 general gynecologists, 10 urogynecologists, and 12 urologists or other gynecologic specialists. Overall, 72% of patients operated on by general gynecologists compared to 4% of patients operated on by urogynecologists had a TVH alone for the diagnosis of prolapse. Only 10% of patients operated on by generalists compared to 78% by urogynecologists received a concomitant apical suspension for prolapse, ($p<0.0001$). (Table 1) Forty-four patients (4.7%) required re-surgery for recurrent prolapse and though not statistically significant, a larger percentage of resurgeries had the diagnosis of uterine prolapse (618.1) alone. General gynecologists perform more surgery on women with a diagnosis of uterine prolapse alone while urogynecologists are treating women with more advanced prolapse. (Table 2)

Conclusion: The majority of prolapse procedures performed by general gynecologists do not include an apical suspension compared with urogynecologists who consistently perform an apical suspension.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
The authors report no disclosures.

TABLE 1 Patient Descriptive Statistics

	Native Tissue N=43	Vaginal Mesh N=20	P-Values
Age	48.3±13.3	59.9±10.1	0.0010
BMI	28.94±5.50	28.98±8.39	0.9839
Tobacco			
Yes	1(2.38%)	3(15.79%)	
No	31(73.81%)	9(47.37%)	
Remote	10(23.81%)	7(36.84%)	
Menopause			
No	10(23.26%)	1(5.00%)	
Yes	33(76.74%)	19(95.00%)	

TABLE 2 Results

	Native Tissue	Vaginal Mesh	P-values
POPQ Ba pre-op	1.47±2.91	-1.17±1.92	0.0008
POPQ Ba post-op	-2.18±0.90	-2.25±1.12	0.7806
POPQ Bp pre-op	-0.58±3.04	-1.17±2.04	0.4577
POPQ Bp post-op	-2.63±0.74	-2.35±0.99	0.2311
POPQ C pre-op	-2.6±4.48	-3.28±3.85	0.5801
POPQ C post-op	-8.10±1.61	-7.65±1.60	0.3114

All patients achieved objective success after their surgery for recurrent prolapse. Preoperative anterior prolapse was significantly worse for native tissue than for vaginal mesh.

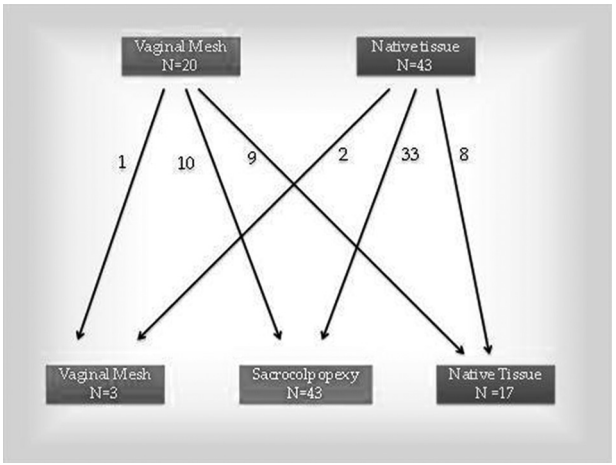

FIGURE. Laparoscopic Sacrocolpopexy Model. Frontal view (Panel A), lateral view (Panel B).

Oral Poster 11

THE RE-VAMP STUDY: MANAGEMENT OF RECURRENT PELVIC ORGAN PROLAPSE AFTER VAGINAL MESH PLACEMENT

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Objectives: To assess anatomic outcomes after surgery for recurrent pelvic organ prolapse (POP) following transvaginal mesh as compared to prior native tissue repair.

Materials and Methods: A retrospective chart review was performed for all patients undergoing repeat surgery for POP at our institution from 2008-2011. Demographic characteristics are listed in Table 1. Objective assessment of prolapse was performed with POP-Q measurements.

Results: Sixty-four patients underwent surgery for recurrent pelvic organ prolapse following failed initial repair as depicted in Figure 1. Preoperative anterior vaginal wall prolapse was significantly worse in the previous native tissue repair group as compared to the vaginal mesh group (Table 2). Mean POP-Q scores were significantly improved for all patients after their repeat surgery regardless of the type of surgery performed ($p<0.001$) at 1 year post-op or last available. There was a significantly longer period of elapsed time to repeat surgery after failed native tissue repair as compared to failed vaginal mesh surgery. (3687.1±3623.8days versus 907.2±752.6days respectively, $p=0.0006$). All patients achieved objective success after their surgery for recurrent prolapse as defined by post-op points Ba, C, Bp >0 and no subsequent treatment for POP in terms of repeat surgery or pessary use, regardless of whether their initial surgery involved vaginal mesh or native tissue (Table 2). There were no major peri- or post-operative complications.

Conclusion: Repeat surgery after failed prolapse repair presents a clinical and technical challenge. In our series, failed vaginal mesh procedures resulted in nearly equivalent native tissue and sacrocolpopexy repairs. Overall, the majority of women with recurrent POP were managed with sacrocolpopexy. We demonstrate success in surgery for prolapse recurrence using a variety of surgical modalities, with native tissue, vaginal mesh, and abdominal mesh repairs being viable treatment options when used in appropriately selected patients.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
The authors report no disclosures.

Oral Poster 12

CONTRIBUTION OF LAPAROSCOPIC SURGICAL EXPERIENCE TO THE DEVELOPMENT OF ROBOTIC SIMULATOR PROFICIENCY

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Objectives: To determine the degree to which a surgeon's years of laparoscopic experience contribute to the acquisition of robotic surgical skills and the achievement of proficiency.

Materials and Methods: Surgeons were tested in their ability to perform four different simulated robotic surgical skills using the dV-Trainer simulator (Mimic Technologies, Inc., Seattle, WA) of the da Vinci Surgical System (Intuitive Surgical Inc., Sunnyvale, CA). The subjects completed a pre-test questionnaire to provide demographic and experience data, which included the number of years of practice in both laparoscopic and robotic surgery. Each subject performed four exercises using the simulator: pegboard, camera targeting, thread the rings, and energy dissection. The simulator collected multiple performance metrics during each of the exercises. A Pearson's correlation was calculated on the relationship between the number of years of laparoscopic and robotic experience (independent variables) with their overall proficiency score on the robotic simulator (dependent variable).

Results: A total of 54 subjects participated in the experiment and 42 completed all four tasks in the robotic simulator. The subjects reported a range of experience in laparoscopic surgery between 4 and 34 years, and in robotic surgery between 0 and 11 years. Subjects indicating zero years of robotic experience were excluded from the study, reducing the sample size to 30 surgeons. Using the Pearson Product Moment Correlation with 28 degrees of freedom and α=0.05, a significant correlation threshold of 0.349 was established. There was a statistically significant negative correlation between years of laparoscopic experience and the overall proficiency score in two of the four robotic surgery exercises (pegboard = -0.361; thread rings = -0.454). and a negative correlation which did not achieve statistical significance in the two remaining exercises (peg board = -0.152; energy dissection = -0.228).

Conclusion: Using a robotic simulator to measure the proficiency of surgeons with both laparoscopic and robotic surgical experience we found a statistically significant negative correlation between the number of years of laparoscopic experience and proficiency in two of four exercises and a trend toward a negative correlation in the other two exercises. This analysis suggests that extensive laparoscopic experience may have a negative impact on the learning curve associated with robotic surgery.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Arnold P. Advincula: Consultant fee, Royalty - Consultant/Inventor

Oral Poster 13
HISTOLOGIC FINDINGS IN PATIENTS WITH VAGINAL CUFF DEHISCENCE AFTER ROBOTIC PROCEDURE

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Objectives: The objective of this study was to describe the histological characteristics of vaginal tissue in patients who presented with vaginal cuff dehiscence (VCD) after robotic procedure and to compare this group to vaginal tissue from patients who did not dehisce.

Materials and Methods: Vaginal cuff tissue obtained at the time of repair from 7 patients who presented with VCD after robotic procedures in 2006-2009 and vaginal tissue from 6 patients who underwent vaginal repair procedures (without VCD) were identified. Tissue was cut and stained with H&E and reticulin and evaluated for acute and chronic inflammation markers - neutrophils, lymphocytes and plasma cells. Mason's trichrome stain was used to evaluate for collagen and additionally, immunohistologic staining was performed for collagen I and III, smooth muscle actin (SMA, a marker for smooth muscle cell) and SM-22α (a marker for myofibroblast) content. Computer image analysis software was used and staining was evaluated using semi-quantitative method for SMA, SM22α, collagen types I and III. Analysis of all stains and grading were performed by 4 blinded investigators. The Mann-Whitney test was used to evaluate differences between the two groups and inter-observer variability using correlation coefficients for each variable score.

Results: Patients in this study presented with VCD 42 - 85 days after their robotic procedure. Study and control groups did not differ significantly in age, body mass index, history of bilateral salpingo-ophorectomy, or history of hormone replacement therapy. The VCD group did have significantly higher amounts of neutrophils (1.71 vs.. 1, p=0.036), lymphocytes (2.85 vs.. 1.33, p=0.002), and plasma cells (2.2 vs.. 1, p=0.001) compared to the control group. There was no statistical difference between the groups in the amounts of collagen I (1.71 vs. 1.27, p=0.09) and collagen III (1.66 vs.. 1.38, p=0.37), smooth muscle actin (1.23 vs.. 1.33, p=0.65) and SM22α (1.85 vs.. 1.27, p=0.09). Assessments performed by the 4 blinded investigators correlated (r=0.86) and were not significantly different (p=0.76).

Conclusion: The results of this study confirm that the levels of both acute and chronic inflammation are increased in the VCD group. The dynamic process of wound healing requires diminishing levels of inflammatory cells at 3-4 weeks post-surgery in order for the restorative phase to occur. This study suggests a prolonged inflammatory phase thereby delaying the normal progression from the inflammatory to the reparative state in patients with dehiscence. The histological absence of greater levels of myofibroblasts, collagen I and III that would be expected during this restorative period suggests further evidence of impaired healing.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: The authors report no disclosures.

Oral Poster 14
PATIENT AND SURGICAL CHARACTERISTICS ASSOCIATED WITH VAGINAL CUFF DEHISCENCE FOLLOWING TOTAL HYSTERECTOMY

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Objectives: To identify factors associated with cuff dehiscence following varying routes of total hysterectomy.

Materials and Methods: We conducted a retrospective, matched, case-control study to examine demographic and clinical characteristics, obtained by medial record review, of women who experienced a vaginal cuff dehiscence following total hysterectomy compared to women who did not experience this complication. Women who underwent a total hysterectomy by any route and had a dehiscence at Magee-Women's Hospital from January 2000 to December 2011 were matched to the next five total hysterectomies conducted by the same route. Summary statistics and conditional logistic regression were performed to compare cases to controls.

Results: Thirty-one cases of dehiscence following total hysterectomy were matched to 155 controls. Among the dehiscence cases, 12 (38.7%) presented after total abdominal, 2 (6.5%) after vaginal, 2 (6.5%) after laparoscopic-assisted vaginal, 13 (41.8%) after total laparoscopic and 2 (6.5%) after robotic-assisted total laparoscopic hysterectomy. Cases had a mean age of 45.0 years (SD 13.4) and a mean body mass index (BMI) of 27.0 kg/m2 (SD 6.7). Controls had a mean age of 47.9 years (SD 1.0) and a mean BMI of 30.1 kg/m2 (SD 7.4). While obese women (BMI >=30) were 70% less likely than normal weight women (BMI <25) to experience a dehiscence (p=0.02), other factors examined were not associated with cuff dehiscence (p>0.05, Table 1).

TABLE 1: Association of Demographic and Clinical Factors with Dehiscence Following Total Hysterectomy

Factor	Cases n=31 n(%)	Controls n=155 n(%)	Unadjusted OR (95% CI)	P Value
Age (>=40 years)	18 (13.6)	114 (86.4)	0.46 (0.20-1.08)	0.08
Body Mass Index (kg/m2) <25 >=25 - <30 >=30	14 (45.2) 10 (32.3) 7 (22.6)	45 (29.2) 40 (26.0) 69 (44.8)	1.0 (referent) 0.8 (0.3-1.9) 0.3 (0.1-0.8)	—- 0.6 0.02
Race (Black)	6 (19.4)	20 (12.9)	1.7 (0.6-4.9)	0.3
Tobacco	11 (35.5)	38 (24.7)	1.9 (0.8-4.9)	0.2
Menopause	9 (30.0)	50 (32.5)	0.8 (0.3-2.0)	0.7
Diabetes	3 (9.7)	10 (6.5)	1.6 (0.4-6.3)	0.5
Indication for Surgery Pelvic Pain Vaginal Bleeding Fibroids Endometrial Cancer Endometriosis Prolapse	12 (38.7) 14 (45.2) 7 (22.6) 4 (12.9) 3 (9.7) 2 (6.5)	61 (39.4) 70 (45.2) 36 (23.2) 24 (15.5) 12 (7.7) 8 (5.2)	0.97 (0.4-2.2) 1.0 (0.5-2.2) 0.9 (0.3-2.7) 0.8 (0.3-2.5) 1.3 (0.3-5.1) 1.3 (0.2-8.1)	0.9 >0.9 0.9 0.7 0.7 0.8
Monopolar Colpotomy	16 (51.6)	75 (66.4)	1.3 (0.3-5.3)	0.7
Malignant Pathology	7 (22.6)	32 (20.8)	1.2 (0.4-3.2)	0.8
Cuff Closure (Suture Type) Polysorb PDS Barbed	18 (78.3) 2 (8.7) 1 (4.4)	84 (65.6) 11 (8.6) 8 (6.3)	2.5 (0.6-11.1) 0.9 (0.1- 5.5) 0.5 (0.1-5.7)	0.2 0.9 0.6
EBL (>=200ml)	14 (45.2)	64 (41.3)	1.3 (0.5-3.4)	0.6

When analyses were stratified by hysterectomy route, obese women and women >=40 years were 80% less likely to experience a dehiscence following robotic-assisted and total laparoscopic hysterectomy than normal weight or younger women (adjusted odds ratio (OR) 0.2; 95% confidence interval (CI), 0.03-0.8 and OR 0.2; 95% CI, 0.05-0.9, respectively). However, race was the only factor associated with dehiscence following other vaginal and abdominal routes of hysterectomy; black women had a four-fold increased risk of dehiscence compared to other women (OR 4.3; 95% CI, 1.2-16.3).

Conclusion: In this study, older age and obesity were associated with a decreased risk of cuff dehiscence following robotic-assisted and total laparoscopic hysterectomy but not following other routes, while black women had a greater risk of dehiscence following vaginal and abdominal routes of hysterectomy. These results suggest that the increased risk of dehiscence following total laparoscopic hysterectomy observed in previous studies may be partly due to patient characteristics.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Ted Lee: Honorarium - Consultant

Suketu Mansuria: Honorarium - Surgeon Educator

Oral Poster 15
A COMPARISON OF SHORT-TERM OUTCOMES BETWEEN LAPAROSCOPIC AND VAGINAL HYSTERECTOMIES

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Objectives: To compare perioperative outcome measures between laparoscopic and vaginal hysterectomies

Materials and Methods: This is a retrospective analysis of consecutive patients who underwent laparoscopic (LH) and vaginal (VH) hysterectomies for benign gynecologic conditions at our institution from November 1999 to March 2007. LH cases were either supracervical hysterectomy (LSH)) or total hysterectomy (TLH) but did not include laparoscopically assisted vaginal hysterectomies. We excluded any procedure with concomitant surgery except for adnexal removal, adhesiolysis or cystoscopy. We compared operating time and the rate of operative and postoperative complications, rate of conversion to laparotomy, perioperative hemoglobin change, and length of hospitalization were analyzed.

Results: Of the 1544 procedures, 1014 (65.7%) were LHs and 530 (34.3%) were VHs. After exclusion of cases with incomplete data and concomitant reparative procedures, 1136 patients were available for analysis. Of these, 1009 (85%) were LH and 117 (15%) were VH. The groups were similar with respect to age, race, gravidity, parity, body mass index, menopausal status, and rate of any adnexal removal.

Average operating time was 165±60 minutes with a range from 60 to 515 minutes. On average, operating time was 20 minutes shorter for VH [95% confidence interval (CI), 10.7- 29.8]. Overall, a total of 4.4% (52) of subjects had at least one serious complication (17 urinary tract injury, 6 reoperations, 1 venous thromboembolism, 7 vaginal cuff dehiscence and 26 bleeding episodes requiring transfusion). The rates of serious complications for LH (3.96% ; 95% CI, 2.8-5.2) and VH (6.78%; 95% CI, 3.0 -10.5) were not significantly different (OR, 1.76; 95% CI, 0.91-3.42 when LH group was the referent). Due to small rates of individual complications, we were not able show any significant difference between the groups. Of note, there was no cuff dehiscence in VH group. Length of hospital stay and perioperative hemoglobin change were also similar between LH and LSH. Adjustment for the any significantly different baseline variables did not change our results.

Conclusion: In this comparison of LH and VH performed for benign gynecologic indications without concomitant procedures, LH lasted 20 minutes longer than VH. Perioperative serious complication rates were similar between the groups.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Alexander Knee: Trainer, Consulting Fee

Oral Poster 16
NOVEL TECHNIQUE TO MEASURE UTERINE LIGAMENT STIFFNESS AND EARLY FINDINGS

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Objectives: To describe a new computer-controlled linear servoactuator research device for measuring in vivo uterine ligament force-displacement behavior ("stiffness") and present pilot data concerning ligament "stiffness" and prolapse.

Materials and Methods: Women with a full spectrum of uterine support based on POP-Q exam were recruited preoperatively. Testing occurred after anesthetic induction, with the patient in dorsal lithotomy position.

We developed a tripod mounted computer-controlled linear servoactuator (Model # FA-PO-150-12-8″, Firgelli Automation) to quantify the force-displacement behavior of the uterine cervix. The handle of a tenaculum attached to the cervix was pulled caudally at a constant 4 mm/s velocity until the traction force reached 17.8 N (4 lbs) at the end of the "ramp" phase of the

TABLE 1 *Data presented are mean (standard deviation) and range.

Subjects	Mean cervix location at rest in OR (cm)	Mean cervix location with minimal force (cm)	Mean cervix location with maximum force (cm)	Mean cervix location change (cm)	Mean \"Stiffness\" (N/cm)
N=12*	-1.5 (25.0) (-4.5 to 3.5)	-0.78 (25.9) (-4.0 to 5.1)	2.7 (2.9) (-5.0 to 9.5)	3.5 (1.0) (2.0 to 5.0)	5.85 (1.8) (3.6 to 9.0)

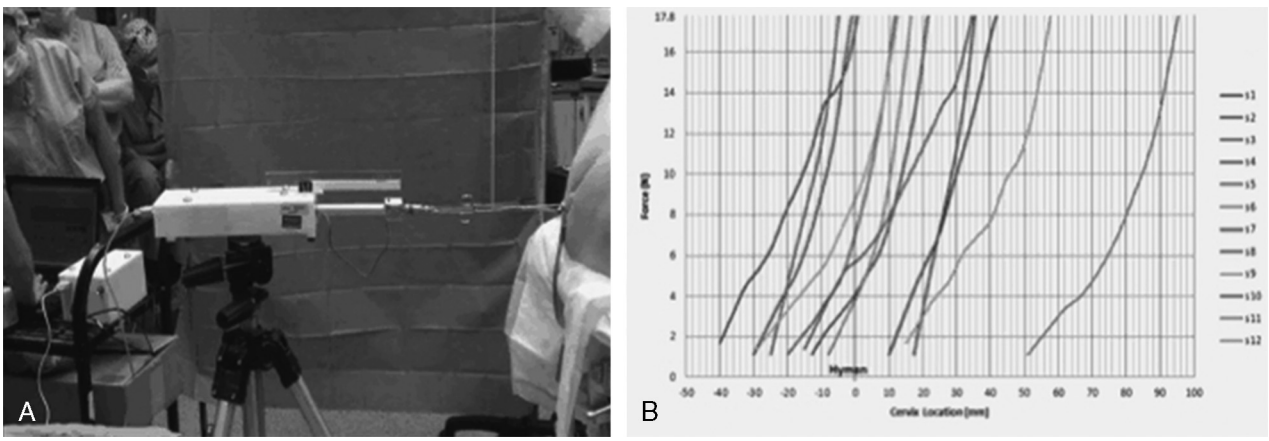

Figure 1a. A computer-controlled linear servoactuator mounted on a tripod quantifying force-displacement behavior of the uterine cervix while applying caudally-directed tensile force to the handle of a tenaculum attached to the cervix. Figure 1b. Force-displacement graph demonstrating hyperelastic ramp curves for the 12 individual subjects. X-axis showing Cervix Location in mm based around the Hymen. Y-axis showing Force in N.

test, whereupon it was kept constant for 60 sec ("hold" phase) to measure how the ligament tension relaxed with time (Figure 1a). A Transducer TechniquesTM load cell(Model # TLL-500, capacity 500 lbs, nonlinearity 0.25% of Rated Output) was used to measure the traction force. Each patient underwent three "ramp-and-hold" trials, each separated by 60 seconds rest.

Data collected included cervix location 1) on clinic POP-Q exam 2) at rest in OR 3) with minimal force(<1.3N) and 4) with maximum force (17.8N). From this, the ligament "stiffness" (Δforce / Δdisplacement) was calculated(Table1).

Results: 12 women with mean(SD) age 54.1(13.0) yrs, parity 2.9(1.6) and BMI 29.7(1.6)kg/m2 were recruited. Point C ranged from -10cm to +7cm (mean -3.42cm (SD 5.0)). The first "ramp" portion of each subject's force-displacement curve is shown(Figure1b). Under 17.8 N the location relative to the hymenal ring (top of graph) depended on both starting position and stiffness(slope of the force - displacement curve). The latter demonstrates a hyperelastic characteristic wherein the stiffness increases with increasing displacement.

Cervix location at max force during traction was positively correlated with cervix position at min force(r=+.904,p=.01) and cervix location at rest(r=+.893,p=.01). POPQ C in clinic was less strongly associated(r=+.702,p=.011) as was ligament stiffness(r= -.464,p=.129).

Conclusion: A novel computer-controlled linear servoactuated apparatus provided useful measurements of in vivo uterine ligament force-displacement behavior. The position of the cervix at max traction was correlated most with location at rest and under minimal tension, and less with POP-Q C or ligament stiffness.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

James Ashton-Miller: Institutional Research Contract Principal Investigator, Co-Investigator

John O. DeLancey: Investigator, Research contract with U of M

Jiajia Luo: contracted research, research support

Oral Poster 17

ESTABLISHING CUTOFF SCORES FOR THE R-OSATS TOOL AND ROBOTIC SKILLS DRILLS

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Objectives: Resident training and assessment tools for robotic surgery are lacking. We previously developed a valid and reliable robotic objective structured assessment of technical skills (R-OSATS),,which is designed to assess 5 inanimate robotic skills drills. In this study we aim to establish cutoff scores for competency for these drills.

Materials and Methods: We generated cutoff scores for the R-OSATS tool using 2 established techniques: the Modified Angoff method and the Contrasting Groups method. The R-OSATS tool assesses 5 robotic skills drills: "Tower Transfer", "Roller Coaster", "Big Dipper", "Train Tracks", and "Figure of Eight". Performance for each drill is assessed across 4 categories: 1) accuracy; 2) force/tissue handling; 3) dexterity; and 4) efficiency. Scores range from 0-20 for each drill, allowing a maximum total score of 100 for all 5 drills. For the Modified Angoff technique, 8 gynecologic surgical specialists met in person as content experts. This group consisted of minimally-invasive specialists, urogynecologists, and gynecologic oncologists who work with trainees and are familiar with the robotic drills and R-OSATS. After discussions of competence versus expertise, experts rated what the score should be for a minimally competent trainee for each category in all 5 drills. Disparate scores were reviewed as a group. In an iterative process, scoring was repeated until the mean scores were unchanged and reasonable standard deviations were achieved. The sum of the means for the 5 drills determined the minimum passing score for the entire R-OSATS tool. The level of agreement between experts for final cutoff scores was assessed using the intra-class correlation coefficient (ICC). For the Contrasting Groups method, we utilized data from a prior validation study where trainees and faculty performed 5 skill drills and were assessed using the R-OSATS tool. We considered PGY-1 trainees to be "inexperienced", and compared their total scores to scores from faculty and fellows, who were considered the "experienced" group. We plotted the distribution of scores from inexperienced and experienced groups and the cutoff score was determined from the intersection of the two distribution curves.

Results: Using the Modified Angoff method, we established R-OSATS cutoff scores after 2 rounds of scoring and discussion. Mean cutoff scores and standard deviations per drill were: a) Tower Transfer: 12.6 ± 1.1; b) Roller Coaster: 12.5 ± 0.9; c) Big Dipper: 13.0 ± 1.4; d) Train Tracks: 13.0 ± 0.8; e) Figure of Eight: 12.9 ± 1.1. Thus, a cutoff score of 13 per drill was established, which would correspond to a summed cutoff score of 65 out of a possible 100 points for all 5 drills. The level of agreement for cutoff scores was high, with ICC = 0.72. For the Contrasting Groups method, a total of 12 PGY-1 trainees were compared to 22 faculty and fellows. Using this method, the minimum passing score was 73, which confirms the results obtained from the Modified Angoff method.

Conclusion: Using rigorous standard-setting techniques, we estimate a minimum cutoff score of 65 for the R-OSATS tool. This score indicates the minimum threshold for competency when performing 5 robotic skills drills.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Arnold P. Advincula: Consultant Fee/Royalty - Consultant, Inventor

Elizabeth J. Geller: Speaker - Honorarium

Isabel C. Green: Research group member, Travel expenses reimbursement

Martin A. Martino: content advisor - honorarium

Michael C. Pitter: Speaker - Honorarium

Nazema Y. Siddiqui: Symposium participant, Reimbursement for travel PI (no salary support), Research grant, Invited course faculty

Megan E. Tarr: Curriculum design committee, travel expenses

Oral Poster 18

A COMPARISON OF POSTURAL ERGONOMICS BETWEEN LAPAROSCOPIC AND ROBOTIC SACROCOLPOPEXY

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Objectives: To compare surgeons' ergonomic and mental strain during laparoscopic and robotic sacrocolpopexy.

Materials and Methods: Resident, fellow and attending urologic & gynecologic surgeons at Loyola University Medical Center, Chicago, IL, completed validated questionnaires assessing musculoskeletal and mental strain at the time of sacrocolpopexy from October 2009- January 2011. The Body Part Discomfort (BPD) Survey was completed prior to cases, and the NASA Task Load Index (TLX) and BPD were completed following cases. Higher scores on the BPD indicate greater musculoskeletal discomfort. Higher Likert scores on the subscales of the TLX indicate greater mental, physical, temporal, effort and frustration demands and lower perceived performance.

Data regarding surgeon demographics and operative experience was collected, in addition to operative time, estimated blood loss (EBL), patient Body Mass Index (BMI), conversion to an open case, and history of prior abdominal and pelvic surgeries. BPD scores were averaged over body regions: head/neck; back; hand/wrist; arms; and knees/ankles/feet. R statistical software (Vienna, Austria) was used for analysis. T tests and Wilcoxon rank sum tests were used to compare continuous variables between groups. Multivariable analysis was performed using mixed effects linear regression with surgeon as a random effect in order to adjust for multiple surveys completed by a single surgeon. Likelihood ratio tests were used to develop the models of best fit for each outcome. Changes in body-region-specific discomfort scores were used as the outcomes.

Results: 16 surgeons participated: 53% fellows, 34% residents and 13% attending surgeons. Mean age for surgeons was 33 years (range 27-54), and all reported "good or "excellent" health. 86 sacrocolpopexy cases were analyzed, including 33 robotic and 53 laparoscopic with median surgical time 231 [204,293] vs. 227 [203,272] minutes (p=.31), median EBL 100 [50,175] vs. 150 [50,200] mL (p=.22), and mean patient BMI 27±4 vs. 26±4 kg/m2 (p=.26), respectively.

Robotic surgeries were associated with lower neck/shoulder (-0.19 [-0.32, -0.01]) and back discomfort scores (-0.35 [-0.58, 0]) than laparoscopic. Higher total TLX scores were associated with greater back discomfort scores (0.17 [0.05, 0.37]). Knee/ankle/foot and arm discomfort increased with case length (0.18 [0.02, 0.3]; 0.07 [0.01, 0.14], respectively).

Conclusion: Robotic surgery may offer an ergonomic advantage over traditional laparoscopic surgery. Surgeons performing minimally invasive sacrocolpopexy experienced less neck, shoulder, and back discomfort when the surgery was performed using robotic assistance.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
Jacqueline A. Cunkelman: Investigator, Research Grant
Megan E. Tarr: Curriculum design committee, travel expenses

Oral Poster 19
SINGLE INCISION MINI-SLINGS COMPARED TO RETROPUBIC MIDURETHRAL SLINGS: AN ANALYSIS OF EFFICACY AND COMPLICATIONS

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Objectives: To compare efficacy and complications between the single incision mini-sling and retropubic midurethral sling for treatment of stress urinary incontinence (SUI).

Materials and Methods: Women who underwent a sling procedure for SUI from January 1, 2008 through December 31, 2009 were identified using an electronic database. Perioperative and demographic data were recorded. A follow-up survey was mailed. Outcomes were based on survey responses and medical record review. The primary outcome was treatment failure (overall incontinence), defined as an International Consultation on Incontinence Questionnaire (ICIQ) score > 0 or need for a repeat anti-incontinence procedure. Secondary outcomes were postoperative stress-specific incontinence, de novo urge incontinence, re-operation for SUI, operative complications, mesh erosion, and the Patient Global Impression of Severity and Improvement (PGI-SI).

Results: The study included 202 women who returned a mailed survey. Mean follow up was 20.9±13.4 months. Women in the mini-sling group had a higher BMI (kg/m2) (30.7±6.5 vs.. 28.9±6.0, P=0.052) and shorter follow up (18.6±11.5 vs. 22.9±14.6 months, P=0.019). Other baseline characteristics were comparable (Table 1). Treatment failure occurred in 71(76.3 %) of the mini-sling vs.. 70(64.2%) of the retropubic sling group with an unadjusted odds ratio (OR) of 1.8 (95% CI; 1.0-3.3; P=0.061). After adjustment for BMI and follow up time, the OR was 1.84 (95% CI; 1.0-3.5, P=0.061). Postoperative stress-specific incontinence occurred in 44(47.3%) of the mini-sling group vs.. 32(29.3%) with an adjusted OR of 2.4 (95% CI; 1.3-4.5, P=0.003). De novo urge was reported by 15(16.1%) in mini-sling vs.. 17 (15.6%) in the retropubic sling group (P=0.917). Four patients had surgery for recurrent or persistent SUI, all in the mini-sling group (P=0.012). There was no difference in the overall rate of operative complications [8(8.6%) mini-sling vs. 16(14.7%) retropubic; P=0.179]. Mesh erosion was reported in 1(1.1%) compared to 5(5.0%) (P=0.143). Global improvement was reported in 71(77.2%) in the mini-sling compared to 87(80.1%) in the retropubic sling group (P=0.560).

Conclusion: Compared to retropubic midurethral slings, mini-slings are less effective. Patients who had a mini-sling were more likely to report postoperative, overall, and stress-specific urinary incontinence and had higher reoperation rates for SUI.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
John Gebhart: Consulting fee, Advisory Board

Baseline characteristics in mini-sling vs.. retropubic midurethral sling

Patient Characteristics (N = 202)	Mini-sling (n = 93)	Retropubic Midurethral Sling (n = 109)	p-value
Age, mean	60.2±14.6	59.6±12.2	0.728
Body mass index (kg/m2), mean	30.7±6.5	28.9±6.0	0.052
Obese (BMI > 30 kg/m2)	40(44.4%)	31(32.3%)	0.089
Race (white)	91(97.8%)	102(93.6%)	0.182
Parity, median	3(range:0,9)	3(range:0,6)	0.051
Menopausal	54(58.1%)	61(56.0%)	0.763
History of smoking	24(25.8%)	35(32.1%)	0.326
Prior pelvic surgery	40(43.0%)	50(45.9%)	0.684
Prior anti-incontinence surgery	5(5.4%)	4(3.7%)	0.735
Preoperative anti-incontinence medication	9(9.7%)	14(12.8%)	0.480
Mixed incontinence	44(47.3%)	53(48.6%)	0.852
Follow up time (months)	18.6±11.5	22.9±14.6	0.019

Oral Poster 20
CYSTOMETRIC BLADDER CAPACITY AND OTHER PREDICTORS OF FAILED VOIDING TRAIL AFTER MIDURETHRAL SLING

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Objectives: To describe the incidence and risk factors associated with failed active bladder testing (ABT) after midurethral sling (MUS).

Materials and Methods: This was a single-site retrospective cross-sectional observational study. Data from electronic medical records on all isolated MUS procedures performed at the University of Texas Southwestern Medical Center from 1/2010 to 8/2012 were reviewed. All patients had a same day post-operative "fill-and-pull" ABT with sterile water/saline filled to 300mL or patient discomfort. ABT "passing" required that two-thirds of the volume instilled was voided. Patients who had intraoperative complications that required discharge with a Foley catheter were excluded. Remaining patients who were discharged with indwelling catheters were "failures". Patient demographics, preoperative urodynamics data, amount instilled and voided during ABT, and ABT outcome were evaluated. Univariate analyses were completed using Student's t-test or Wilcoxon rank-sum test and Pearson chi-square as appropriate. Multivariate stepwise logistic regression was used to determine predictors of passing/failing the ABT.

Results: 130 patients had isolated MUS (8 transobturator, 122 retropubic). Of these, 18 patients were excluded due to intraoperative complications, including bladder perforation, necessitating indwelling catheterization. Of the remaining 112 patients, 90 (80.4%) passed the ABT on first attempt prior to discharge home and 22 (19.6%) failed. The average amount instilled into the bladder during an ABT was 296cc. The average voided volume in those who passed the ABT was 291cc and 68cc in those who failed, p<0.001. Univariate analyses demonstrated an average bladder capacity of 381cc (SD 126) in those who passed their ABT and 415 (195) in those who failed, p=.33. The capacity-to-infused volume ratio was 1.3 (.66) vs.. 1.5 (.75) for passed and failed groups, respectively, p=.35. In the group that failed, 18 of 22 (81.8%) had bladder capacities greater than the infused amount for the ABT, 1 had equal the amount instilled, and 1 had a capacity below the amount instilled. The passed group did not have significantly different capacity-to-infused volume ratios (chi-square 0.92, p=.34). MFR (cc/sec) was greater in the pass group than the failures, 21.6 (12.4) vs.. 15.6 (7.6), p=.047. DO was observed more commonly in the failure group, 41% vs.. 20%, p=.037.

Multivariate analysis demonstrated that every increase of 50cc in bladder capacity increased odds of failing the ABT (OR 1.25, 95% CI 1.02-1.53, p=.031); DO also increased odds of failure (OR 5.0, 1.23-20.0, p=.024). Every unit increase in MFR decreased the odds of ABT failure (OR 0.91, 0.83-0.9, p=.03). There was no correlation with passing the ABT and age, race, BMI, max urethral closure pressure, and max detrusor pressure during pressure-flow studies.

Conclusion: Women undergoing isolated MUS have a high probability of passing the ABT on first attempt. As bladder capacity increases, MFR decreases, or DO is observed, patients are more likely to be discharged home with an indwelling catheter. Further research is needed in this area to conclude the optimal instilled bladder volume during postoperative voiding trials.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
The authors report no disclosures.

Oral Poster 21
DOES SIZE AND LOCATION OF THE CLITORIS IMPACT FEMALE SEXUAL FUNCTION?

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Objectives: Intact female sexual function is a complex interplay involving both physical and mental health. However, anatomic and physiologic mechanisms may impact the ease of orgasm. While the clitoral complex plays a central role in genital sensation, its anatomy has only been recently characterized. Nevertheless, it is not known whether size or position of this organ may impact sensation. The purpose of this study was to evaluate clitoral size and location with regard to sexual function, particularly orgasm.

Materials and Methods: This was a cross-sectional IRB-approved study. Ten sexually active, pre-menopausal women with anorgasmia were recruited to undergo a pelvic MRI, hormone testing and several validated questionnaires. Twenty orgasmic women, matched by age and BMI, were enrolled as a comparison group (2:1 ratio). Anorgasmia was diagnosed based on both the Prolapse Incontinence Sexual Questionnire-12 (PISQ-12) and the Female Sexual Function Index (FSFI). Data obtained included demographics, a detailed sexual history, serum hormone levels obtained in the follicular phase, PISQ-12, FSFI, Body Exposure during Sexual Activity Questionnaire (BESAQ), and a 12 item Short Form health survey (SF-12). All subjects underwent pelvic MRI without contrast; extensive measurements of the clitoral complex were calculated.

Results: Thirty women completed the study. The mean age was 32 years (SD 7), mean BMI 25 (SD 4). The majority was Caucasian (90%) and married (61%). While demographic factors were similar between groups some differences were noted in other measured parameters. Anorgasmic women tended to prefer the missionary position (60%), while the female dominant position was favored in orgasmic subjects (37%, p=0.02). Total PISQ-12 ($p<0.001$), total FSFI ($p<0.001$), and all FSFI domains (p=0.025), except pain, were higher for orgasmic subjects. However, there was no difference between groups for the SF-12 or BESAQ scores.

Regarding MRI measurements for all subjects, the area of the clitoris was 111mm3 (SD 61) in coronal view, and 115mm3 (SD 44) in sagittal view. Notably, the area of the clitoris in coronal view (73 vs.. 131mm, p=0.029) was significantly smaller for the anorgasmic group. Additionally, a larger distance from the clitoral glans (51 vs.. 45mm, p=0.02) and body (29 vs.. 21mm, p=0.001) to the vaginal lumen was found in the anorgasmic subjects. Finally, total vaginal length (TVL) was shorter for this group than for orgasmic women (8.5 vs.. 9.5cm, p=0.02). For the entire sample, larger distance between the clitoris and the vagina correlated with poorer scores on the PISQ-12 (r=-0.44, p=0.02), FSFI (r=-0.43, p=0.02) and BESAQ (r=0.37, p=0.04).

Conclusion: A smaller clitoral glans and greater distance of the clitoral complex from the vaginal lumen was noted in women with anorgasmia. While adequate sexual function is complex, we document that clitoral anatomy and location may be paramount in impacting ease of orgasm.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
Rachel N. Pauls: Research funding, Scientific Advisory Board, Stock options

Non-Oral Poster 22
USE OF PROPHYLACTIC CLOSED SUCTION DRAINAGE IN VAGINAL HYSTERECTOMY

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Objectives: The purpose of this study was to review the use of prophylactic pelvic drainage following vaginal hysterectomy procedures.

Materials and Methods: This was a retrospective chart review of 298 women who underwent vaginal hysterectomy between June 1998 and June 2012. Prophylactic vaginal drainage was used in each case.

Results: One patient developed a pelvic abscess postoperatively that required CT-directed drainage. One patient developed a large bowel obstruction (sigmoid volvulus) requiring reoperation. There were no other significant complications.

Conclusion: The rate of infectious morbidity in this series is less than that reported in other large series without routine drainage. Following the unusual occurrence of large bowel obstruction, a smaller length of drain was used in subsequent cases.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
The authors report no disclosures.

Non-Oral Poster 23
THE EFFECT OF A CHECKLIST FOR ASSESSMENT OF ROUTE OF HYSTERECTOMY ON THE INCIDENCE OF VAGINAL HYSTERECTOMY

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Objectives: Then aim of this study was to examine whether a checklist and default route of vaginal hysterectomy would increase the proportion of hysterectomies performed by the vaginal route in patients from a resident's clinic.

Materials and Methods: A checklist of contraindications to vaginal hysterectomy was piloted in a pre-operative clinic at a tertiary hospital in July 2011. All procedures were to be done vaginally unless one of the 8 contraindications was checked off (suspected malignancy, narrow apex, cup-de-sac unreachable, narrow arch, small bituberous diameter, uterus fixed to anterior wall, uterine size >14 weeks, lower segment myomas).Laparoscopy was also scheduled if there was a history of previous abdominal surgery, endometriosis, adhesions or suspected ovarian pathology. Data was collected on uterine weight, pathology and complications.

Results: In the 12 months prior to the intervention, 4/17 or 24% of hysterectomies identified through billing data were performed vaginally. After institution of the checklist, 8/22 or 36% were performed vaginally. The mean uterine weight of vaginal vs. abdominal cases was 92 vs. 457grams.

Conclusion: The requirement to justify non-vaginal route of hysterectomy by use of a checklist to document the contraindications to surgery can increase the number of vaginal hysterectomies, but this effect is tempered by large uterine size.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
The authors report no disclosures.

Non-Oral Poster 24
NATURAL ORIFICE VAGINAL SACROCOLPOPEXY: SHORT-TERM OUTCOMES

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Objectives: To assess the short-term outcomes of natural orifice vaginal sacrocolpopexy with a retroperitoneal approach, using the same steps as the classical abdominal approach.

Materials and Methods: The study population consisted of 18 patients with stage III or IV vaginal vault prolapse and uterine prolapse, seen between December 2009 and August 2012. We did not consider cases with previous vaginal surgery and a narrow subpubic arch. The technique consisted of a vertical midline incision in the posterior vaginal wall 6 cm below the apex. Sharp and blunt dissection of the posterior and anterior vaginal walls was then carried out and continued in the right pelvic retroperitoneum towards the sacral promontory. Using three Briesky-Navratil retractors, the first sacral vertebra was exposed. The presacral fascia was dissected at the level of S1 placing two to three 2-0 prolene sutures horizontal to the sacral portion of the anterior longitudinal ligament. These sutures were then passed through a long soft macroporous prolene mesh and were tied with a knot-pusher. The vagina was everted and four prolene sutures were placed in the anterior vaginal wall, passed through a 5 cm wide and 6 cm long mesh and tied. Six sutures were placed in the posterior vaginal wall. The everted vagina was invaginated. Afterwards, sutures were placed in the posterior vaginal wall and passed through the graft of the sacrum superiorly and obliquely. Both anterior and posterior grafts were attached with 2-0 prolene. The sutures from the posterior vaginal wall to the sacrum mesh were tied to restore the vaginal apex to its normal position.

Results: Mean patient age was 57 years (range 42-71). Mean gravidity was 3 (range 2-9). Before surgery, the mean POP-Q stage was 3.6 (range 3-4). Seventeen out of 18 women underwent successful vaginal sacrocolpopexy;

one required conversion to open abdominal sacrocolpopexy. Thirteen cases out of 17 with VS.C had vaginal vault prolapse, and in 4 cases, vaginal hysterectomy and vaginal sacralcolpopexy were concurrent. Two patients underwent concomitant placement of a retropubic mid-urethral sling. Mean total surgery time was 73 min (range 55-220 min). Mean estimated blood loss during surgery was 250 ml. (range 200-1000). Mean hemoglobin reduction was 1.5 g (range 1.0-3.8); two patients required blood transfusion. After surgery, the mean POP-Q stage was I in the first two cases (C point -6, -5), and in 15 cases the mean POP-Q stage was 0. Mean hospital stay was 2.5 days (range 1-4). One case presented right leg pain postsurgery. The mean follow-up was 13 months (range 2-32). No erosion, infection or urinary tract and rectum sigmoid colon injury was observed.

Conclusion: Restoration of the vaginal apex to its normal longitudinal position was acceptable for the vaginal approach. Reproduction of the classical abdominal steps is possible with a vaginal-retroperitoneal-approach

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

The authors report no disclosures.

Non-Oral Poster 25

PROSPECTIVE COMPARATIVE ANALYSIS OF PAIN CONTROL IN VIDEO-ASSISTED LAPAROSCOPIC HYSTERECTOMY VERSUS ROBOTIC-ASSISTED LAPAROSCOPIC HYSTERECTOMY

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Objectives: To compare patient-reported pain, analgesic requirement and recovery time after video-assisted laparoscopic hysterectomy (VALH) and robotic-assisted laparoscopic hysterectomy (RALH).

Materials and Methods: This is a prospective non-randomized analysis of patients undergoing VALH or RALH conducted in an urban university-affiliated hospital between March 2011 and March 2012. 49 patients were enrolled in the study; 22 patients in the laparoscopy group and 25 in the robotic group. Patients completed a postoperative pain diary for 2 weeks, including validated pain scores using the Numeric Rating Scale (NRS) and narcotic use converted to morphine sulfate equivalents (MSE).

Results: Both groups were similar with regards to age, race, prior abdominopelvic surgeries, psychiatric history and substance abuse. However, the RALH patients had a BMI of 6 points higher than VALH patients (p=0.011). The mean cumulative incision length for VALH and RALH was 2.52cm and 4cm respectively (p<0.001) and the median return to normal activities was 13 days and 23 days respectively (p=0.288). There were no significant differences over time in mean pain scores (p=0.590) or mean narcotic requirements (p=0.091) between both groups.

Conclusion: RALH is equivalent to VALH in terms of subjective and objective measures of postoperative pain. Further randomized studies are needed to confirm this statement.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Farr R. Nezhat: Honorarium - Speake

Mean pain score	Laparoscopic n=22	Robotic n=25	p-value
Day 0	5.77	6.92	0.099
Day 1	5.55	5.96	0.549
Day 2	4.44	5.22	0.271
Day 8	2.48	2.84	0.637
Day 14	1.27	2.28	0.190

Mean narcotic dose in MSE	Laparoscopic n=22	Robotic n=25	p-value
Day 0	11.55	7.27	0.250
Day 1	10.16	8.67	0.692
Week 1	31.44	26.76	0.739

Non-Oral Poster 26

PAIN FOLLOWING TRANSOBTURATOR MIDURETHRAL SLING: CHARACTERIZATION IN A PROSPECTIVE COHORT

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Objectives: To evaluate the prevalence, severity, duration, and location of postoperative pain in women following transobturator sling.

Materials and Methods: We prospectively evaluated patients who underwent in-to-out transobturator midurethral sling placement from March 2011 through June 2012. Self-reported pain, its severity and location were collected preoperatively and at two- and six-week postoperative visits. Severity was graded on a zero to ten scale with ten being the "worst imaginable" pain. Women indicated location of pain at each visit on a standard diagram with views of a woman anteriorly, posteriorly, and in lithotomy. Data are presented as proportion or median (interquartile range). Comparisons were made using a Chi-square, Fisher's exact test or the Wilcoxon signed rank test.

Results: During the study period, 112 women were enrolled. Two patients did not undergo surgery, 3 had retropubic slings, and 2 had incomplete records; they were excluded from the analysis. Of the remaining 105 women, the median age was 50 years (42.0-62.0). One third (32.4%) reported preoperative pain, mostly mild in severity with a median pain score of 1.0 (1.0-4.0). Among these women, the most commonly reported site was the hip (58.8%) followed by the low back (17.6%). The prevalence of pain rose significantly at the two-week postoperative visit (55.1%) with a median pain score of 3.0 (1.0-6.0; p=0.0001) and fell significantly at the six-week visit (9.6%) with a median pain score of 1.0 (1.0-1.0; p<0.0001). Loss to follow up at 6 weeks was similar in women reporting (8.8%) and denying (8.5%) pain in the preoperative period. Postoperatively, the most commonly reported pain sites at two weeks were the lateral leg, medial leg, and low back; pain was more often bilateral (68%). No sling revisions were performed for pain. Presence of preoperative pain did not correlate to postoperative pain (r=0.14; p=0.16). 27.0% of women at two weeks and 2.1% of women at 6 weeks reported pain of 5 or more. Women reporting pain were equally likely to be satisfied with the procedure at six weeks (79.3%) as those without pain (87.8%; p=0.32).

Conclusion: Women planning transobturator midurethral sling commonly report pain at baseline. After an expected postoperative increase, most women had resolution of their pain by the sixth postoperative week. Unlike previous reports, lateral leg pain was the most common site in our population. Postoperative pain after transobturator sling did not affect patient satisfaction.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Eman A. Elkadry: Consultant fee

Location of Pain by Time Point

	Preoperative visit n=105 (N%)	2 week visit n=89 (N%)	6 week visit n=94 (N%)
Any Pain	34 (32.4)	49 (55.1)	9 (9.6)
Low Back	6 (5.7)	8 (9.0)	0 (0.0)
Hip	20 (19.0)	7 (7.9)	0 (0.0)
Leg	4 (3.8)	32 (36.0)	2 (2.1)
Lateral	1 (25.0)	20 (62.5)	0 (0.0)
Medial	0 (0.0)	14 (43.8)	2 (100.0)
Anterior	1 (25.0)	3 (9.4)	0 (0.0)
Posterior	2 (50.0)	3 (9.4)	1 (50.0)
Groin	4 (3.8)	6 (6.7)	0 (0.0)
Incision site	0 (0.0)	4 (4.5)	1 (1.1)
Motor weakness	0 (0.0)	4 (4.5)	0 (0.0)
Other	6 (5.7)	1 (1.1)	4 (4.3)

Some women reported >1 site and some did not report site.

Non-Oral Poster 27
PREVENTION OF POSTOPERATIVE NAUSEA AND VOMITING IN ELECTIVE HYSTERECTOMY: A PROSPECTIVE, RANDOMIZED, PLACEBO CONTROLLED OUTCOMES TRIAL OF APREPITANT NK-1-RECEPTOR ANTAGONIST

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Objectives: Postoperative nausea and vomiting (PONV) is the most frequent side effect after anesthesia, occurring in approximately 30% of unselected patients, and can be increased up to 70% in certain populations and procedures. Despite screening and routine prophylaxis of patients at high risk for PONV, current prophylactic interventions fail to completely eliminate PONV for a substantial number of patients, leading to dehydration, electrolyte imbalance, prolonged hospitalizations, multiple doses of rescue medications, and readmissions to the hospital. Aprepitant (Emend) is the first neurokin-1-receptor antagonist in a new class of antiemetics, which has already demonstrated powerful additive effects when combined with dexamethasone and a 5-HT3 to prevent both acute and delayed chemotherapy-induced nausea and vomiting (CINV). Early studies have also suggested it may useful in the prevention of postoperative nausea and vomiting (PONV). We hypothesized that adding aprepitant to the current prophylactic measures of dexamethasone and ondansetron would reduce the incidence of PONV in our elective hysterectomy population.

Materials and Methods: 256 patients undergoing elective hysterectomy were enrolled in this prospective, randomized, double blinded, placebo controlled trial at their preoperative visit. Patients were allocated to aprepitant or placebo treatment at random in a one to one ratio. The statistician created the treatment allocation schedule by using a computer random number generator. Subjects received either oral aprepitant 40mg or oral placebo approximately 30 minutes prior to induction of standardized anesthesia (which included dexamethasone and ondansetron, propofol induction, and inhalation maintenance with opioids as needed for pain control). The primary outcome measure was whether vomiting occurred within the first 24 hours after surgery. Postoperative nausea (assessed with a Visual Rating Scale (VRS)), vomiting, and use of rescue antiemetic therapy were documented over a 24h period. Additionally, adverse events, hospitalization days, and readmissions for PONV were be compared.

Results: There was a trend towards reduction of postoperative nausea and vomiting in the aprepitant group. Vomiting within 24 hours after surgery was noted for 17% of women in the aprepitant group versus 29% of women in the Placebo group. Nausea within 24 hours of surgery occurred in 24% of the women in the aprepitant group compared to 38% in the women in the Placebo group, and supplemental antinausea medication within 24 hours was used by 42% of women in the aprepitant group versus 60% of women in the Placebo group. No adverse events were substantially more common in the aprepitant group than the Placebo group.

Conclusion: Preemptive use of aprepitant prior to elective hysterectomy may reduce the incidence of PONV and need for rescue medications for PONV. Further studies with larger power are needed to confirm the trends observed in this study. The recent addition of intravenous aprepitant may also offer advantages for preemptive and rescue treatment of PONV for those patients who cannot tolerate oral medications.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
John B. Leslie: Consultant (not in abstract area), Research development consulting, CME
Speaker in area of abstract

Non-Oral Poster 28
CASE COMPLEXITY IS PREDICTIVE OF COMPLICATIONS IN ROBOTIC GYNECOLOGIC SURGERY

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Objectives: To estimate the odds of post-operative complications for gynecologic robotic surgery according to case complexity.

Materials and Methods: This retrospective cohort study measures the frequency of postoperative complications of 1155 patients at Mayo Clinic Arizona who had robotic gynecological surgery from March 2004 to December 2009. Cases were categorized by case complexity: benign simple (e.g. oophorectomy), benign complex (e.g. excision of invasive endometriosis), urogynecologic, or oncologic. We analyzed the odds of complications, overall and by Clavien-Dindo grade, according to case complexity.

Results: Nearly half (47.8%) of the cases were benign simple; 22.7% were benign complex; 10.5% urogynecologic, and 19.0% oncologic. Intraoperative complications occurred in 3.3% of patients. Conversion to laparotomy occurred in 2.7%. Postoperative complications occurred in 18.4% patients, of which only 5.2% were classified as Clavien-Dindo grade 3 or higher.

When adjusted for age, prior pelvic surgery, BMI, EBL, operative time, and length of stay, complications were nearly twice as likely for benign complex (OR 1.7, 95% C.I. 1.1-2.7), urogynecologic (OR 1.9, 95% C.I. 1.0-3.4) and oncologic cases (OR 1.9, 95% C.I. 1.1-3.1) as for benign simple cases. In predictive modeling, case complexity, BMI, EBL, and length of stay remained important factors in predicting postoperative complications.

Conclusion: The incidence of complications in robotic gynecological surgery varies according to case complexity. Defining the role of patient and surgical variables in predicting complications may help identify cases with increased risk and improve patient counseling.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
The authors report no disclosures.

Non-Oral Poster 29
ANTI-CHOLINERGIC MEDICATION USE FOR FEMALE URINARY INCONTINENCE IN THE AMBULATORY SETTING IN THE UNITED STATES

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Objectives: Despite the widespread use of anticholinergic medications for OAB, limited population-based data exist regarding utilization patterns for anticholinergics in the United States. Thus, our objectives were to estimate the prevalence of anticholinergic medication use in adult women and to evaluate socio-demographic factors associated with anticholinergic therapy.

Materials and Methods: We conducted a cross-sectional study using the 2009 National Ambulatory Medical Care Survey database, which represents all outpatient visits to office-based physicians. Based on comprehensive patient visit information collected during a one-week period, national annual estimates were derived using survey weights developed from the complex multistage sampling design. We included women aged 18 years and older and identified visits associated with anticholinergic medications for OAB. We evaluated which medications were the most common and assessed variables associated with anticholinergic use, including age, race/ethnicity, insurance, referral status, and geographic location. We also categorized oral medications into short-acting versus long-acting anticholinergics. In order to estimate rates, we used the 2009 U.S. Census data to determine the number of adult women in the population and calculated rates per 1000 women.

Results: In 2009, there were 525 million outpatient office visits by women aged 18 years and older. Of these, 8.1 million (1.6%) were associated with an anticholinergic medication for OAB (rate 6.8 per 1000 women). The mean age of women taking anticholinergics was higher than those not on these medications (70.0 ± 1.1 vs.. 53.0 ± 0.5, $p<0.001$). There were no racial or ethnic differences between these two groups. A majority of the women on anticholinergics were Caucasian (70%) and non-Hispanic (67%). Given the older age of those on anticholinergics, Medicare was the most common insurance (61%). More outpatient visits associated with an anticholinergic occurred in the South (36%) and the Midwest (27%) than in the West (23%) and the Northeast (14%). The most commonly prescribed medications were tolterodine (34%) and oxybutynin (33%), followed by solifenacin (20%), darifenacin (9%) and trospium (4%). Long-acting anticholinergics were used more often than short-acting medications (54% vs.. 46%, respectively, $p<0.001$).

Conclusion: Over 8 million outpatient visits to office practices by adult women in the United States were associated with anticholinergic medications. Interestingly, geographic differences were evident, with a highest proportion of visits associated with anticholinergics in the South. Despite the abundance of newer generation medications, tolterodine and oxybutynin remain the most commonly prescribed anticholinergic drugs for overactive bladder.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
The authors report no disclosures.

Non-Oral Poster 30
CHANGES IN VAGINAL ANATOMY AND PELVIC FLOOR FUNCTION AFTER FIRST DELIVERY

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Objectives: Our objectives were to assess changes in vaginal anatomy after first delivery (based on Pelvic Organ Prolapse Quantification or POP-Q Exam); and to assess changes in both pelvic floor and sexual function.

Materials and Methods: This is a secondary analysis of a population assessed for anal sphincter injury at the time of first vaginal delivery. Pregnant nulliparous women with a term, singleton gestation were recruited over 18 months. At 35-37 weeks gestation and again at 6 weeks postpartum, genital hiatus (GH), perineal body length (PB), and total vaginal length (TVL) were measured and subjects completed the Pelvic Floor Disorders Inventory (PFDI-20), Pelvic Floor Impact Questionnaire (PFIQ-7), Fecal Incontinence Severity Index (FISI) and Female Sexual Function Index (FSFI).

Results: Fifty-nine subjects were enrolled and 51 completed the study. Mean age was 27.5 years, 52.5% were Caucasian, and mean gestational age at delivery was 39.7 weeks. Mode of delivery was 62.1% spontaneous vaginal,12.0% operative vaginal, and 25.9% labored cesarean. Both vaginal and labored cesarean subjects had a change in GH from pregnancy to postpartum: vaginal subjects increased from 3.27 cm to 3.55 cm (p=.014) and cesarean subjects decreased from 3.41 cm to 2.75 cm (p=.014). There were no changes in PB or TVL for either group. The vaginal group experienced improvement in urinary and pelvic floor symptoms from pregnancy to postpartum: PFDI (p=0.15), UDI-6 (p<.001), PFIQ (p=.017), and UIQ (p=.002); while the cesarean group had no changes. Both groups had worsening of sexual function postpartum, based on FSFI total score, and several subscales: arousal (vaginal group only), lubrication, orgasm, satisfaction, and pain (all p<.05). Subjects who underwent a labored cesarean were more likely to have a delivery complication, lower 1-minute Apgar, be a smoker, and have a longer infant length (all p<.05).

Conclusion: At six weeks postpartum, after both vaginal and labored cesarean delivery, postpartum pelvic floor dysfunction was low, while sexual dysfunction was moderate. Women who underwent vaginal delivery had an increase in size of the genital hiatus, while those who underwent labored cesarean had a smaller genital hiatus after delivery. There were no changes in perineal body or total vaginal length after vaginal or labored cesarean delivery.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
Elizabeth J. Geller: Honorarium - Speaker
Catherine A. Matthews: Fellowship Director, Fellowship Grant Support, Case observation site, Honorarium - Consultant

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Non-Oral Poster 31
PERIOPERATIVE COMPLICATIONS OF ROBOTIC AND ABDOMINAL SACROCOLPOPEXY

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Objectives: While abdominal sacrocolpopexy has long been the preferred treatment for pelvic organ prolapse, the less-invasive robotic sacrocolpopexy has gained popularity. Concerns regarding increased cost and operative time, ease of adoption among less-experienced laparoscopists, and lack of haptic feedback unique to robotic surgery call for further investigation into its associated complications. Our objective was to compare perioperative complications in robotic and abdominal sacrocolpopexy at our institution.

Materials and Methods: This was an IRB-approved, retrospective cohort study of robotic and abdominal sacrocolpopexies performed at our institution. To reduce selection bias, robotic cases performed between 1/1/2007 - 12/31/2009 were compared to abdominal cases performed between 1/1/2002 - 12/31/2006, prior to introduction of robotic surgery in our Division of Gynecologic Surgery. Patients undergoing permanent mesh sacrocolpopexy for benign indications with or without additional pelvic floor repair were included. Cases involving concomitant non-gynecologic procedures other than appendectomy were excluded. Baseline variables, intraoperative variables, and complications up to 6 weeks after surgery were abstracted. Baseline and intraoperative variables were compared between the two surgical groups using the Wilcoxon rank sum and chi-square tests. Complications were compared between groups univariately using chi-square or Fisher's exact tests and in a multivariable logistic regression model adjusting for number of prior abdominal surgeries (0, 1, 2+).

Results: A total of 53 robotic and 99 abdominal sacrocolpopexies was analyzed. Baseline characteristics were similar except that patients in the abdominal group were more likely to have a greater number of prior transabdominal surgeries. Estimated blood loss (median, 100 v. 200 mL, p<0.001), change in hemoglobin (-2.1 v. -2.4 g/dL, p=0.043), and length of hospital stay (2 v. 3 d, p<0.001) were lower in the robotic group. Operative time (4.6 v. 2.9 h, p<0.001) and rate of unintentional vaginotomy (22.6% v. 7.1%, p=0.006) were higher in the robotic group. After adjusting for prior abdominal surgeries, rate of unintentional vaginotomy remained higher in the robotic group (p=0.012). Patients in the robotic group were more likely to experience postoperative hernia (5.7% v. 0%, p=0.041). Six of the 53 (11%) patients in the robotic group underwent conversion to laparotomy for inadequate exposure, presacral bleeding, and/or suspected or confirmed bladder injury. There were no significant differences in rates of bladder, ureteral, or bowel injury, urinary tract infection, ileus, or bowel obstruction between the two groups.

Conclusion: Consistent with prior studies, the robotic group experienced increased operative time and decreased estimated blood loss and length of hospitalization. Compared to prior studies, we did not find differences in postoperative fever or ileus. However, we did find a higher incidence of unintentional vaginotomy and incisional hernia in the robotic group. Lack of haptic feedback could have contributed to the increased rate of vaginotomy. Port site location, manipulation, or closure technique could have contributed to incisional hernia in the robotic group.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
John Gebhart: Consultant, Advisory Board

Non-Oral Poster 32
COMPLETE, SITE-SPECIFIC COLPOCLEISIS: SHORT-TERM SURGICAL OUTCOMES

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Objectives: The purpose of this study is to investigate the short-term surgical outcomes of a novel colpocleisis approach. The procedure is centered on the concept of occluding the urogenital hiatus by approximating the apical transverse edges of the pubocervical and rectovaginal fasciae without plication. A high perineorrhaphy is not needed along with this procedure, thus leaving normal appearing external genitalia. Concomitant hysterectomy is performed if the patient has a uterus.

Materials and Methods: Our case-series included all patients undergoing complete, site-specific colpocleisis by the developing surgeon (CZ) between 1/22/2004 and 4/04/2012. Cases were identified by CPT codes 57120 (colpocleisis) and 57110 (complete vaginectomy). Cases were excluded if the procedure performed was other than site-specific type. Charts were manually reviewed to identify patient demographics, physical exam findings, pre- and post-operative urinary symptoms, and post-operative follow up information. The Baden-Walker classification system was used for pre-operative pelvic organ prolapse grading. Postoperative failure was defined as prolapse protruding beyond the vaginal hymen. A descriptive data analysis was performed using frequencies, means with standard deviations, and medians with quartiles where appropriate.

Results: Our case series included 109 patients who underwent complete, site-specific colpocleisis. Median age was 74.4 years (SD 7.5) with 76.1% (83) having undergone a previous hysterectomy. The majority of patients had advanced, Grade 3 or 4, pelvic organ prolapse, 60.6% (66) and 28.4% (31) respectively. A concomitant anti-incontinence procedure was performed in 13.8% (15) of patients. The average operating time was 125.8 minutes (SD 40.1), and average blood loss was 246.1 mL (SD 145.9). There was a 3.7% (4) intra-operative complication rate that included unilateral ureteral kinking (2), which resolved after releasing the most lateral suture on the affected side, acute blood loss (1), and cystotomy (1). The median time of last postoperative visit was 179 days (SD 375). Postoperative pelvic organ prolapse recurrence

was found in 3.7% (4) of patients, described as "minor bulge". Of these, 1.8% (2) of patients required a repeat procedure for pelvic organ prolapse. An overall improvement in urinary symptoms was observed after the procedure. Postoperative complications were reported in 28.4% (31) of patients; however, 32.2% (10) of the complications were simple removal of exposed permanent suture found at a postoperative visit. Other complications included postoperative urinary tract infections (8), fevers (2), hematoma (2), blood transfusion (5), ileus (1), heart arrhythmia (1), and myocardial infarction (1).

Conclusion: When compared to other descriptive studies of colpocleisis procedures, the complete, site-specific type appears to be overall safe and effective while maintaining normal external anatomy. Future prospective studies are needed to compare the complete, site-specific colpocleisis with other forms of colpocleisis.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Carl W. Zimmerman: Honorarium - Speaker, Royalty - Product Development

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Non-Oral Poster 33

THE EPIDEMIOLOGIC PROFILE OF WOMEN PRESENTING TO THE NATIONAL HOSPITAL OF NIAMEY, NIGER FOR VAGINAL FISTULA REPAIR

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Objectives: The primary objective is to describe the epidemiologic profile of women who presented to the International Organization for Women and Development (IOWD) surgical missions at the National Hospital of Niamey, Niger for vaginal fistula repair.

Materials and Methods: This is a cross-sectional query of an existing database maintained by the IOWD of all women who presented to the IOWD at the National Hospital of Niamey, Niger from 10/2003-4/2009. During this time the IOWD completed 22 surgical missions, all approximately 2 weeks in duration. The database was compiled from standardized, coded history and physical exam forms completed for each patient upon presentation. Patient history information was gathered and recorded in English from patient self-report via interpreters (Nigerien medical students and American Peace Corps Volunteers). Physical exams were performed by IOWD surgeons and recorded in English. Data was entered from history and physical exam forms into the database by a Research Assistant. For this study the database was queried for initial patient presentations only. If multiple entries were completed for the same patient during a 2-week mission, this data was combined as one entry. Descriptive statistics were carried out.

Results: 1323 patient visits were recorded in the IOWD database; 896 entries were determined initial patient presentations. Of the 896 patients who presented, median age was 27 years (range 1-79). 75% (560/745) reported themselves as "married;" mean age of marriage was 16 years (range 6-35). 30% (128/424) reported they were currently having sexual intercourse. The mean number of full term pregnancies was 3 (range 0-16), and mean parity was 4 (range 0-16). Median age of women at first delivery was 18 years (range 10-45); 50% (254/507) had at least one prior C-section and mean number of vaginal deliveries was 3 (range 0-15). 65% (302/468) of women reported that the presenting problem began after vaginal delivery, and 26% (122/468) reported it started after C-section. 88% (434/494) of women had birthed at least one stillborn, and 78% (355/457) delivered a stillborn in the delivery prior to presentation. Mean hours spent in labor was 58 (range 1-192); 74% (470/633) ultimately delivered in a hospital. 53% (235/441) of women were no longer menstruating at the time of presentation. For presenting complaints, 65% (309/475) reported continuous urine leakage, 7% (34/456) leakage of solid feces, and 7% (32/454) leakage of liquid feces. 30% (82/274) reported undergoing prior fistula surgery. On physical examination, 75% (526/698) of women had at least one fistula; 7% (19/280) had a recorded rectovaginal fistula. Of the 172 women who had "no fistula" recorded on exam, 9 reported prior fistula surgery, 45 reported continuous urine leakage, and 8 reported leakage of solid feces.

Conclusion: Women presenting to the IOWD at the National Hospital of Niamey, Niger for fistula repair between 10/2003-4/2009 have specific epidemiologic characteristics. Understanding these characteristics may be helpful in shaping future public health programs.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

The authors report no disclosures.

Non-Oral Poster 34

MULTI-CENTER, MULTISPECIALTY CERTIFICATION FOR ULTRASOUND OF ANAL SPHINCTER ANATOMY

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Objectives: Two-dimensional ultrasound imaging was chosen to characterize the anal sphincter anatomy of primiparous women sustaining an anal sphincter tear as part of the Behavioral Therapy of Obstetric Sphincter Tears (BOOST) protocol development. We describe the curriculum and process used to set minimum passing standards for 15 experts at 8 clinical sites in obtaining and interpreting standardized endoanal ultrasound images (EUS) for this study.

Materials and Methods: A training curriculum and passing criteria were developed by site radiologists, study clinicians and statistician. All study centers identified an experienced site investigator to perform and interpret (read) EUS at their center. These readers attended a daylong training session that concluded with a written certification test. Consensus determined that a reader was considered qualified if s/he was at least 75% concordant with the expert radiologist's assessment (the gold standard) for categorizing a defect in the internal anal sphincter (IAS) and at least 50% concordant with the expert for interpreting defects in the external anal sphincter (EAS). Data on study interpretability (yes/no), anal canal level (distal, mid, proximal), and presence or absence of an EAS and/or IAS defect were summarized. With 21 ultrasound images and 15 readers per image, there was at least 80% power to detect an intraclass correlation (ICC) of 0.70 under the alternative hypothesis, when the intraclass correlation under the null hypothesis is 0.50. The kappa statistic was also calculated with EUS responses treated as discrete values (presence or absence of sphincter defect, not applicable if poor image quality) as a confirmatory measure. Values of <0.40 were considered poor to slight agreement, 0.41 - 0.60 fair to moderate, 0.61 - 0.80 good, and 0.81 - 1.00 very good agreement.

Results: Site experts represented the following specialties: gynecology (86.6%), urology (6.7%) and radiology (6.7%). Fourteen of 15 readers attended the daylong training session. Calculation of agreement was based on all 21 images. Thirteen of 14 readers met the pre-defined passing level for IAS and EAS at the training session (test set #1) while one reader passed by completing a second test (test set #2). Protocol leaders using test set #1, trained the one reader not attending the training session. The reader completed test set #2 for the qualification and passed. Agreement among the readers and expert (for presence of sphincter defect) was ICC = 0.54 (95% CI: 0.41, 0.69) for IAS and 0.50 (95% CI: 0.37, 0.66) for EAS. Agreement using kappa was 0.58 (SE=0.016) for IAS and 0.55 (SE=0.017) for EAS.

Conclusion: Multi-center certification of competence of 15 experienced individuals on interpreting EUS images was performed in a carefully planned single-day event. Agreement for diagnosis of sphincter defects using endoanal ultrasound images is moderate. This strategy allowed achievement of an acceptable level of EUS image characterization compared to a gold standard radiology expert.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Elizabeth R. Mueller: PI, Research Funding, Speaker - Honorarium

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Non-Oral Poster 35

THE EFFECT OF NEUROMODULATION ON GLOBAL PELVIC FLOOR SYMPTOMS AND QUALITY OF LIFE

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Objectives: The impact of InterStim® placement on "global" pelvic floor symptoms is unclear. The purpose of this study was to evaluate pelvic floor symptom subscales utilizing validated symptom distress, quality of life (QOL), and patient satisfaction measures among women undergoing InterStim® therapy for refractory urgency urinary incontinence (UUI).

Materials and Methods: Baseline validated measures of female patients undergoing InterStim® therapy for refractory UUI from 2007-2012 were reviewed. These subjects were contacted to participate in a questionnaire follow-up study utilizing the Pelvic Floor Distress Inventory (PFDI-20), Pelvic Floor Impact Questionnaire (PFIQ-7), the Medical, Epidemiological, and Social aspects of Aging questionnaire (MESA), Patient Satisfaction Questionnaire (PSQ), and Patient Global Impression of Improvement (PGI-I) questionnaire. Changes in each measure, reported as median and interquartile ranges, were analyzed using the Wilcoxon signed-rank test.

Results: Fifty-six subjects were identified, 75% greater than 6 months post implant. Forty of the 56 (71%) subjects responded. Four subjects were explanted prior to follow-up, and 2 did not participate. Demographic data revealed a predominately obese population (mean body mass index was 30 kg/m2) with a mean age of 62 years. Twenty-two of 56 (39%) subjects with complete PFDI data revealed a significant reduction from baseline for mean total score (p=0.002) as well as all concomitant subscales (Table 1). Similarly, significant improvement was seen in total (p=0.002) and urinary impact (p<0.001) subscale scores of the PFIQ for 17/56 (30%). Twenty-five of the 56 (45%) subjects had complete MESA data, revealing a significant decrease in stress incontinence symptoms (p=0.01), (Table 1). Thirty-four of 56 (61%) subjects completed the PGI-I and the PSQ measures, with 48% of patients reporting that they felt much or very much better, and 73% reporting that they were somewhat or completely satisfied with their urinary condition.

Conclusion: "Global" pelvic floor symptom distress was improved as well as overall and urinary symptom impact on quality of life. This data reflected a positive impact on stress urinary incontinence symptoms as well. More robust data and long term outcomes are needed to completely characterize the global pelvic floor impact of InterStim® therapy.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
Holly E. Richter: PI, Research Grant, Consultant

TABLE 1 Global Pelvic Health Symptom Distress and Impact Following InterStim® Therapy

Measure	Baseline	Follow-Up	Change	p-value
PFDI Total (n=22)	143.8 (101,170.8)	67.7 (49,113.5)	23.4 (1.0,81.3)	0.002
POPDI	35.4 (12.5,50)	10.4 (0,20.8)	8.3 (0,25)	0.003
CRADI	48.4 (21.9,62.5)	28.1 (9.4,37.5)	12.5 (-3.1,28.1)	0.01
UDI	56.3 (45.8,75)	37.5 (25,79.2)	16.7 (-4.2,29.2)	0.03
PFIQ Total (n=17)	100 (81,133.3)	47.6 (9.5,71.4)	57.1 (23.8,95.2)	0.002
UIQ	81.0 (67.7,90.5)	28.6 (9.5,57.1)	42.9 (23.8,61.9)	<0.001
CRAIQ	14.3 (0,57.1)	0 (0,23.8)	0 (-9.5,42.9)	0.21
POPIQ	0 (0,14.3)	0 (0,4.8)	0 (0,4.8)	0.21
MESA Stress (n=25)	15 (8,23)	11 (7,18)	4 (0,7)	0.01
MESA Urge (n=25)	11 (8,13)	10 (7,12)	1 (-1,2)	0.38

Median and interquartile ranges are presented p-values reflect Wilcoxon signed-rank test

Non-Oral Poster 36
RECTOSIGMOID RESECTION AT THE TIME OF SACROCOLPOPEXY FOR PELVIC ORGAN PROLAPSE AND DEFECATORY DYSFUNCTION: A CASE SERIES

S. Rahimi, N. Noor, A. Ky, C. J. Ascher-Walsh, A. D. Garely *Mount Sinai Hospital, New York, NY.*

Objectives: Up to 70% of women with pelvic organ prolapse (POP) have defecatory dysfunction (constipation, incomplete fecal emptying, straining and need for manual splinting), believed to be multifactorial in etiology and not always adequately treated with traditional surgery for prolapse. A proportion of these women have internal rectal prolapse which may be treated with sigmoid resection with good reported success in relief of symptoms. A small number of surgeons in both colorectal and pelvic reconstructive surgery believe that performing a sigmoid resection at the time of POP repair will improve defecatory symptoms. This practice is uncommon due to a lack of safety and efficacy data. At our institution, a subset of patients with POP and internal rectal prolapse have undergone rectosigmoid resection at the time of sacrocolpopexy. Our aim is to describe our experiences with these patients and to illustrate that the combined surgical procedure may be performed with no significant peri-operative complications.

Materials and Methods: This is a retrospective analysis of patients who underwent abdominal sacrocolpopexy with low anterior sigmoid resection and anastomosis for symptoms of pelvic organ prolapse and defecatory dysfunction between September 2009 and July 31, 2012.

Results: 20 patients were identified who had undergone sacrocolpopexy with sigmoid resection and anastomosis. Demographic information is as follows expressed as median (range): age 52.2 years (41-69), parity 2 (0-9), BMI 23 (15-29), stage of prolapse 2 (2-4), follow up 6 weeks (3-72). 19/20 (95%) had at least one defecatory complaint: 19 (95%) reported constipation, 8 (40%) reported digital splinting to aid in bowel movements, 6 (30%) reported straining and 5 (25%) reported laxative use. All 20 patients were referred to colorectal surgery for further evaluation based on symptoms, physical exam or both. 7 (35%) had MRI defecography and 4 of these patients had MRI confirmed diagnosis of internal rectal prolapse or intussusception. Intraoperative and immediate post-operative data are as follows expressed as median (range): surgical time 134 minutes (102-279), hospital stay 3 days (3-8), estimated blood loss 100 mL (50-750), change in hematocrit 6.7 % (2-12), highest recorded white blood cell count post operatively 11.4 (7-16). Data regarding post-operative resolution of defecatory symptoms was available only for 11 patients, 8 (73%) reported symptom improvement. There were no intraoperative (cystotomy, enterotomy, transfusion) and no immediate post-operative complications (transfusion, fever requiring antibiotics, small bowel obstruction, ileus, reoperation). 4 (20%) patients required additional surgery (posterior colporrhaphy) for symptomatic rectocele within 1 year of their initial surgery. One patient underwent diagnostic laparoscopy one week after discharge for abdominal pain which revealed no significant findings and one patient was readmitted for an ileus which resolved with conservative management.

Conclusion: We conclude that performing sigmoid resection at the time of sacrocolpopexy may be safe for patients with bowel dysfunction secondary to internal rectal prolapse.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
Alan D. Garely: Honorarium - Speaker
Alex Ky: Honorarium - Speaker

Non-Oral Poster 37
THE EFFECT OF VERBAL EDUCATION ON POSTOPERATIVE KNOWLEDGE FOR WOMEN PRESENTING FOR VESICOVAGINAL FISTULA SURGERY IN KIGALI, RWANDA

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Objectives: The primary objective of this study was to assess the effect of verbal education (VE) on knowledge regarding basic postoperative care for Rwandan women presenting with vesicovaginal fistula (VVF). The secondary objective was to assess participant satisfaction with VE sessions.

Materials and Methods: We conducted a prospective cohort study of women presenting with VVF to the International Organization for Women and Development at Kibagabaga Hospital in Kigali, Rwanda from 2/2012 to 5/2012. Demographic information was obtained and participants were administered a 24 item oral questionnaire: 22 questions measured knowledge regarding postoperative care; 2 questions measured worry/confidence in postoperative self-care. Participants then attended a standardized small group VE session conducted by one of the authors with translation performed by a Rwandan medical student. The session included information on basic post-operative care, including activities and restrictions. The same oral questionnaire was administered between 0-4 days (mean 1.8) post intervention with 5 additional questions measuring participant satisfaction. Correct responses to knowledge questions were given equal weight (range 0-22). Self-care questions were based on a 5 point Likert scale (range 1-5); one question measured patient worry (lower scores=less worry); one question assessed confidence in postoperative self-care (higher scores=greater confidence). Satisfaction questions were based on 5 point Likert scales (range 1-5, higher scores = greater satisfaction). Descriptive statistics were used to compare pre and post-intervention answers using a two-sided, paired t-test.

Results: 24 women participated in our study. Median age was 38 years (range 27-75), all spoke only Kinyarwanda, 16 (67%) were illiterate, 13

(54%) had undergone at least one prior VVF repair. All participants were diagnosed with a VVF with a median duration of symptoms of 12 years (range 0.5-24). The inciting event was labor in 23 (96%), with 18 (75%) of the VVF following cesarean delivery and 5 (21%) following vaginal delivery. Overall, participants demonstrated increased mean knowledge scores from pre- to post-intervention (14.5 (+/-2.15) vs. 17.5 (+/- 2.0), P<0.00001). For self-care questions, there was no difference in pre- and post-intervention mean scores (worry 1.7 (+/-1.3) vs.. 1.6 (+/- 1.1) P=0.6); confidence 4.5 (+/- 0.8) vs. 4.7 (+/- 0.7) P=0.5). After separating participants into two groups, those with prior fistula repair experience and those without, there was a difference between groups in pre-intervention knowledge (mean score 15.3 (+/-2.3) vs. 13.5(+/-1.4); P= 0.03), but no difference in post-intervention knowledge (mean score 17.5 (+/-1.8) vs. 17.5 (+/-2.3); P=0.9) or in score change (mean change 2.2 (+/- 2.0) vs. 4.0 (+/-2.4); P=0.07). Regardless of prior fistula repair experience all women improved in knowledge. Participants reported satisfaction with the sessions (mean score 4.9 (+/-0.3)).

Conclusion: This study suggests VE covering basic postoperative care is well-received and can increase knowledge in women presenting for VVF repair in Rwanda regardless of prior fistula repair experience.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: The authors report no disclosures.

Non-Oral Poster 38
CHEWING GUM AFTER OPEN GYNECOLOGIC SURGERY DECREASES POSTOPERATIVE NAUSEA AND ILEUS: A RANDOMIZED CONTROLLED TRIAL

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Objectives: The purpose of this study was to compare the gastrointestinal recovery and rates of postoperative ileus in patients who received chewing gum versus routine postoperative care after laparotomy for a benign gynecologic surgery.

Materials and Methods: This is a single-blinded, randomized trial in which patients undergoing open gynecologic surgery for benign indications were preoperatively randomized to receive either postoperative chewing gum or routine postoperative care alone. The intervention group was asked to chew sugar-free spearmint gum for 15 minutes every 4 hours after admission to the postoperative floor. The primary end point, time until the passage of flatus, and secondary outcomes, patient satisfaction and time to toleration of clear diet, regular diet, hunger, and bowel movement were collected with an inpatient survey. Secondary outcomes including time to discharge from hospital as well as number of episodes of nausea and vomiting, anti-emetic usage, readmissions, repeat surgeries, and the development of postoperative ileus, defined as two episodes of emesis of 100 cc or more postoperatively accompanied by documented abdominal distention on physical examination were obtained through a chart review.

Results: 110 of 133 eligible patients agreed to participate and were randomized between 12/2010 - 02/2012. One subject was excluded from the intervention group because of a colorectal malignancy that was diagnosed at the time of laparotomy. Of the 109 subjects remaining, 51 received chewing gum and 58 received routine care. There was no difference between groups in mean age, type of incision, primary surgical procedure, operative time, estimated blood loss, or amount of intraoperative fluid resuscitation. Patients who were randomized to routine postoperative care had a higher BMI (32.7 vs. 29.6 kg/msq, p=0.037) and were more likely to be black (65.5% vs. 41.2%, p=0.039) and to receive an epidural (31% vs. 11.8%, p=0.026). There was a trend towards earlier passage of flatus in patients who received chewing gum (30.8 vs. 42.2 hours, p=0.08). Patients who received chewing gum experienced less postoperative nausea (31.4% vs. 50.0%, p=0.049) and postoperative ileus (0% vs. 8.62%, p=0.032) than those who were randomized to routine care. After controlling for baseline differences, women that received chewing gum were less likely to experience postoperative ileus. There were no adverse events associated with gum chewing. There were no differences between the two groups in the need for anti-emetics, episodes of vomiting, readmissions, repeat surgeries, or time to first hunger, clears, regular diet, bowel movement or discharge. 88.5% of respondents from either group reported their satisfaction with their gastrointestinal recovery as a 4 or 5 out of 5 on a Likert scale.

Conclusion: The administration of chewing gum after laparotomy for benign gynecologic surgery is a safe and well received intervention that lowers the risk of postoperative ileus and nausea.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: The authors report no disclosures.

Non-Oral Poster 39
INCIDENCE OF NEUROLOGIC INJURY IN LAPAROSCOPIC GYNECOLOGIC PROCEDURES USING THE BEAN BAG AND SHOULDER SUPPORT TO PREVENT PATIENT DISPLACEMENT

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Objectives: Neurologic injury is a rare but potentially debilitating surgical complication. Using Trendelenburg position, patients can slide on the table, limiting vaginal access and risking lower extremity injury. To avoid this, some surgeons use shoulder supports. However, shoulder supports may injure the brachial plexus. Our primary goal was to estimate the incidence of brachial plexus neuropathy in gynecologic laparoscopic cases using the bean bag(Olympic Vac-Pac®, Natus Medical) and shoulder supports (Allen®) with foam arm-board pads (Medline Industries). A secondary goal was to quantify patient displacement both, relative to the bean bag, and relative to the table and to determine what variables correlated with that movement

Materials and Methods: Chart review of gynecologic laparoscopic cases (September 2011-August 2012). Data collected included weight, BMI, total surgical and Trendelenburg time; displacement of the patient and the bean bag; neurologic symptoms in the extremities before and after surgery; other complications. Data analysis is descriptive and Spearman correlation coefficients(Rho) were calculated with SAS Version 9.2 (Cary, NC).

Results: 190 cases were identified (58 myomectomies, 57 hysterectomies with culdoplasties, 23 hysterectomies with sacrocolpopexies, 16 hysterectomies, 36 other procedures). Median age was 42(interquartile range (IQR) 37-48); median weight was 68kg(IQR 58.9-79.8); median BMI was 25.2kg/m2 (IQR 22.0-29.1) (51.1% overweight or obese), 19 current smokers and 3 diabetic. None had preoperative neurologic symptoms. Median earliest postoperative evaluation was 11.5days(IQR 1-15). No patients experienced brachial plexus neuropathy. One complained of bilateral shoulder pain in recovery room that resolved in 2 days. 43 patients experienced 47 complications, none were neurologic(17 were grade 1, 24 were grade 2 and 6 were grade 3B according to the Dindo classification). Median patient displacement relative to the table was 0 cm(IQR 0-2). This was significantly correlated with the displacement of the patient on the bean bag (Rho=0.95, p<0.01) and the bean bag relative to the table (Rho=0.68, p<0.01). Its correlation with surgical time (Rho=0.17, p=0.02) was statistically significant.

Conclusion: In this large case series, the incidence of upper extremity neurological injury was 0%. The bean bag and patient displacement were minimal. The displacement of the patient on the table correlated with the displacement on the bean bag and that of the bean bag relative to the table. The use of bean bag with shoulder supports and foam arm-board pads is a good method of preventing displacement of patients with minimal risk of neurologic injury.

Surgical Variables

Variable	Surgical Time (min)	Trendelenburg time (min)	EBL (ml)	Patient displacement relative to table(cm)	Bean Bag displacement relative to table(cm)	Patient displacement relative to bean bag(cm)	Hospital stay (days)	Earliest posop assessment (days)	Latest postop assessment (days
Median	100	76	100	0	0	0	0	11.5	16
IQR	75-122	55-97	50-200	0-2	0-0	0-1.5	0-1	1-15	13-31

Rho of displacement relative to OR table

Patient or Surgical Variable	Weight	BMI	Total Operative Time	Total Trendelenburg Time	Bean Bag Displacement	Patient displacement
Rho	0.16	0.13	0.17	0.11	0.68	0.95
p	0.03	0.09	0.02	0.13	<0.01	<0.01

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
The authors report no disclosures.

Non-Oral Poster 40
PREDICTORS OF VOIDING TRIAL FAILURE IN WOMEN UNDERGOING MIDURETHRAL SLING WITH CONCOMITANT PELVIC ORGAN PROLAPSE SURGERY

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Objectives: To identify preoperative predictors of women failing a voiding trial (VT) after midurethral sling (MUS) with concomitant pelvic organ prolapse (POP) surgery.

Materials and Methods: A retrospective cohort study was performed. Records of women undergoing either MUS only or with POP procedures between 2006-2009 who had a VT (retrograde fill to capacity or 300 ml) postoperatively were included. Women who had prior incontinence surgery, had undergone a sling revision, or colpocleisis procedure were excluded. A successful VT was defined as voided volume of ≥2/3 filled-volume. Women who failed the VT were discharged home with an indwelling catheter. Pertinent demographic, clinical, urodynamic, and validated questionnaire data was abstracted. Baseline voiding symptoms were described utilizing questions from the Pelvic Organ Prolapse Distress Inventory (POPDI)-6. Our primary aim was to identify predictors for VT failure in the setting of MUS with concomitant POP surgery. Women who underwent MUS only comprised the control group, and those with concomitant POP surgery comprised the exposure group. Secondarily, characteristics associated with passing or failing the VT were identified among exposure subjects. Clinical characteristics were compared using appropriate bivariate analyses. Logistic regression was used to estimate risk of VT failure controlling for concomitant prolapse surgery.

Results: Of the 1329 identified, 277 had MUS only and 651 had concomitant POP surgery. Subjects who failed the VT were 82/277 (29.6%) in the control group and 262/651 (40.2%) in the exposed group. Demographic and clinical characteristics were similar. Mean age and BMI was 60.6±11.3 years and 28.1±5.9 kg/m2, respectively; 94% were Non-Hispanic White. Mean Valsalva leak point pressure were similar (p=0.86). Higher bladder volumes (≥300ml) were more likely needed to demonstrate urodynamic stress incontinence in the exposure group (40% vs.. 14%, p<0.001). Pressure-flow studies revealed differences in detrusor [42% vs.. 61%,p=0.03] and Valsalva [14.6% vs.. 3%, p=0.01] voiding mechanisms in the control and exposed groups, respectively. After controlling for concomitant POP surgery, subjects with Valsalva voiding were at increased the risk of VT failure [OR= 2.7 (95% CI 1.02-7.3)]. Among the exposed group, 389/651 (59.8%) passed and 262/651 (40.2%) failed the VT. Midurethral sling procedures with concomitant rectocele repair (p=0.01), cystocele repair (p<0.001), or concurrent apical suspension with cystocele repair (p<0.001) were associated with VT failure. Exposed subjects who failed the VT reported more preoperative symptoms of incomplete bladder emptying (65% vs.. 54%, p<0.01) and the need to manually reduce to void (24.1% vs.. 16.2%, p=0.013) in comparison with those who passed.

Conclusion: Valsalva voiding mechanism is a predictor for VT failure in women undergoing MUS with or without concomitant POP surgery. VT failure after MUS with concomitant POP surgery was associated with preoperative symptoms of voiding difficulty. This information may assist in counseling patients regarding risk of VT failure in the immediate postoperative setting.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
Holly E. Richter: PI, Research Grant Consultant

Non-Oral Poster 41
24-HOUR VOIDING DIARIES; COMPLIANCE AND ACCURACY IN THE OFFICE SETTING

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Objectives: Voiding diaries are commonly used in diagnosis and management of urinary symptoms. These instruments document voiding patterns in a patient's natural environment thus providing unique insight into the scope of the problem. Nevertheless, it is not known whether women complete these appropriately outside of clinical trials. We sought to evaluate compliance with a 24-hour voiding diary in women presenting for urogynecologic care.

Materials and Methods: This was a cross sectional IRB-approved study of 200 patients presenting for initial consultation. All participants were provided a packet prior to their visit including history forms, validated questionnaires, and a 24-hour voiding diary, with instructions for completion. Upon arrival at their appointment, subjects were asked to complete a brief survey regarding the diary. The survey consisted of 11 questions: 8 targeted those that completed the diary in their packet and 3 addressed those that did not. How and when the diary was completed, barriers to completing it, and a visual analog scale assessing degree of interference of their pelvic condition were queried. Surveys were labeled by subject number, and kept separate from the medical record. Medical history and scores on validated indices (UDI-6 and IIQ-7) were obtained from the chart.

Results: Five women were excluded for recording more than 24 hours of voiding data. Of the 195 remaining subjects, the majority was Caucasian (87%), with a mean age of 56 (SD 14). The most common reason for seeking care was prolapse (43%), followed by stress (24%) and mixed (23%) incontinence. Overall, 85% completed the diary. While the majority of 'completers' were employed (56%), only 39% worked on the day they performed the diary. Most subjects recorded their diary on a Monday (25%) or Tuesday (25%). When queried regarding how they completed the diary, 52% stated they marked following each void, and 29% stated they did so at the end of the day, while 19% described a combination of these. The most common reason for not completing the diary was 'thinking it didn't apply to them' (54%). Some differences between completers and non-completers were noted. Completers were more likely to be older (p=.038), describe mixed incontinence (p=.001), void more frequently based on their medical history (p=.038) and have a smaller bladder capacity on office cystometrics (p=.027). When evaluating their scores on the UDI-6 and IIQ-7, completers had greater distress on the UDI-6 (p=.019). However, visual analog scales regarding interference of their pelvic condition were not noted to be significantly different (p=.089). A large number of completers, (77%), believed that the responses on the diary represented their typical bladder function. Indeed, when frequency of voiding based on medical history was compared to the frequency on the diary, a strong correlation was noted (r=.369, p<.001).

Conclusion: While women with irritative bladder symptoms may be more adherent, compliance and accuracy of voiding diaries is reassuringly high in the office setting. This confirms such diaries are robust tools, which should be included in the evaluation of all urogynecologic patients.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
Rachel N. Pauls: Research funding, Scientific Advisory Board, Stock options

Non-Oral Poster 42
MATERNAL LOWER URINARY TRACT INJURY AT THE TIME OF CESAREAN SECTION

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Objectives: To determine incidence of and risk factors associated with maternal lower urinary tract (LUT) injury at the time of Cesarean section (C/S).

Materials and Methods: A retrospective review of all C/S at a tertiary care academic center from June 2001 to December 2011 was performed to identify deliveries complicated by LUT injury. LUT injury was defined as injury to the bladder and/or ureters at the time of C/S resulting in modification of routine post-partum care (i.e. extended transurethral catheter,

ureteral stents). Cases of LUT injury were identified by ICD-9 code (665.5) and confirmed by chart review. Annual incidence rates were calculated. A case-control analysis of injury risk factors was performed using 2:1 year-matched, randomly-selected Cesarean controls. Maternal, delivery, and health system characteristics were abstracted from chart review and hospital birth registry data for univariate and multivariate logistic regression modeling (SPSS, Version 20.0).

Results: Although both annual deliveries and C/S increased across the study period, rates of LUT injury demonstrated no significant trend, ranging from 0.1 to 0.89 per 1000 total deliveries and 0.34 to 3.06 per 1000 C/S (Figure 1). We identified 41 cases of LUT injury (39 bladder, 2 ureteral) amongst over 26,000 C/S performed. 29 additional cases of partial thickness bladder injury were identified but excluded from analysis due to lack of modification in routine post-partum care; 3 cases of LUT injury at the time of Cesarean hysterectomy were also excluded. In our 41 cases, 98% of LUT injuries were recognized intraoperatively and 87% of bladder injuries were first recognized by gross visualization. Median size of bladder injury was 4cm, with 54% of injuries to the dome and 21% to the posterior wall. Injuries occurred most commonly at peritoneal entry (41%) and with hysterotomy or hysterotomy extension (23%). All women with injury were managed with extended transurethral catheters; 83% received daily antibiotics during catheter use and 67% had a voiding cystourethrogram prior to catheter removal. Univariate analysis demonstrated women with LUT injury were more likely to be Caucasian (OR 8.8, 95% CI 2.0-39.4) and ≥35 years (OR 7.1, CI 95% 3.1-16.5). Injury cases were more likely to have >1000ml blood loss (OR 4.0, 95% CI 1.3-11.9), to require a blood transfusion (OR 8.2, 95% CI 1.6-41.7) and to have pushed during the second stage of labor (OR 5.6, 95% CI 2.3-13.5). Maternal weight, infant weight, emergent C/S, prior C/S, surgeon level of training, and daily obstetric volume were not significantly associated with increased risk of LUT injury. Though not significant, a trend toward more LUT injuries in the early academic year was observed. Age ≥35, blood transfusion, and pushing during the second stage of labor were significantly associated with LUT injury in our multivariate logistic regression model.

Conclusion: The incidence of LUT injury remains low despite an increasing C/S rate. Risk factors for maternal LUT injury in our model include increasing age, need for transfusion, and pushing in the second stage of labor.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: The authors report no disclosures.

Non-Oral Poster 43

PREVALENCE OF VITAMIN D INSUFFICIENCY IN WOMEN WITH LEIOMYOMAS AS COMPARED TO WOMEN IN THE GENERAL POPULATION

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Objectives: Recently, vitamin D has been touted for its many benefits within the fields of oncology, medicine and even gynecology. Previous research has examined vitamin D and its effects on myometrial and leiomyoma cell proliferation in vitro. It was concluded that when treated with a physiologic concentration of vitamin D, both normal myometrial and leiomyoma cell growth were significantly suppressed. Following this conclusion, a study was performed to assess the effects of vitamin D supplementation on leiomyomas using rats. The conclusion was that 1,25-dihydroyvitamin D3 significantly decreased uterine leiomyoma tumor volumes, reaching a maximum of 75%. Although the effects of vitamin D supplementation have begun to be addressed, the question as to whether there is a difference in vitamin D levels in women with leiomyomas has not. The objective of this study is to assess the prevalence of vitamin D insufficiency in women with leiomyomas as compared to women in the general population.

Materials and Methods: Cross sectional analysis of women who presented to the Fibroid Center of New York with magnetic resonance imaging or ultrasound confirmed uterine fibroids from May 2012 to August 2012. Blood sample was sent to evaluate these patients' 25(OH) vitamin D levels. Data collected included age, race, past medical history, prior medical or surgical treatments for uterine fibroids, smoking status and imaging results. Data was evaluated using a sample Z test

Results: 100 women had their 25(OH) vitamin D level evaluated. These results were compared to a population historical proportion of a 30 percent incidence of vitamin D insufficiency in women during the months of May to September. Using a sample Z test, and an 81percent population proportion based on our data and a 30 percent population proportion based on historical data, the Z statistic is 11.14 and exceeds the critical value of 1.96. Based on this Z statistic, there is sufficient evidence to reject the null hypothesis of equality in favor of the alternative hypothesis of inequality. There is a statistically significant difference between the historical proportion and the current proportion. The p-value is $p<0.0001$.

Conclusion: There is a statistically significant higher prevalence of vitamin D insufficiency in women with leiomyomas as compared to women in the general population.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: The authors report no disclosures.

Non-Oral Poster 44

POSTERIOR TIBIAL NERVE STIMULATION FOR THE TREATMENT OF FECAL INCONTINENCE: A SYSTEMATIC REVIEW

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Objectives: Neuromodulation via posterior tibial nerve stimulation (PTNS) is an emerging therapy for fecal incontinence (FI). The aim of this study is to systematically review the literature regarding the efficacy of PTNS as a treatment for FI.

Materials and Methods: We searched MEDLINE/PubMed, EMBASE, and Cochrane databases, in addition to abstracts from gastrointestinal, colorectal, gynecologic and urologic meetings in 2011-2012. We included English language studies reporting outcomes for FI with either percutaneous PTNS or transcutaneous PTNS. We included all full text articles and any abstracts with 20 or more subjects. A combination of two independent reviewers assessed all abstracts and full text articles. We used the Grades of Recommendation Assessment, Development and Evaluation (GRADE) system to assess study quality.

Results: Seventy-nine abstracts met our search criteria. Ten full text articles and 7 scientific abstracts met criteria for further review, including one randomized controlled trial and 16 case series. There was one fair quality study, a randomized controlled trial, and this was reported as an abstract only. All other studies included in our review were case series without comparative groups, and of low quality based upon the GRADE system. In total, 477 subjects were studied, and of those 86% were female and 14% were male. Studies involved percutaneous PTNS in 75% (360/477), transcutaneous PTNS in 23% (10/477) and a sham transcutaneous technique in 2% (8/477) subjects. Interventions generally involved 12 stimulation sessions before assessing major outcomes but otherwise varied according to session frequency, maintenance therapy, and follow-up time. Eleven of twelve studies that utilized the Wexner/Cleveland Clinic Florida Fecal Incontinence Score reported scores statistically significantly improved after treatment. The only study with unchanged scores was performed exclusively in subjects with Crohn's disease or ulcerative colitis. Eight studies collected bowel diaries recording FI episodes; however time periods over which FI episodes in these diaries were collected were not consistent. In the one randomized controlled trial, 30 subjects were randomized to percutaneous PTNS, transcutaneous PTNS, or a sham transcutaneous procedure. Treatment success was seen in 85% of those who underwent percutaneous PTNS, 45% of those who received transcutaneous PTNS and 13% who underwent sham. FI etiologies otherwise varied across studies and included idiopathic FI as well as obstetric trauma and prior colorectal/anal surgery; six studies specifically delineated subjects with and without anal sphincter defects. Eight studies enrolled only patients who had failed prior conservative management.

Conclusion: Thus far, published literature investigating PTNS as a treatment for FI is of low quality. Ideal future studies should include comparator groups, use consistent and meaningful outcome measures, and investigate the duration of effect. Studies regarding maintenance regimens, and those assessing specific populations that are likely to benefit would also be useful. Despite the low quality of current studies, PTNS shows promise as an emerging treatment for fecal incontinence.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Cindy L. Amundsen: spouse/speaker, spouse/honorarium, spouse/consultant
Pamela J. Levin: Project Manager - Spouse, Employer
Nazema Y. Siddiqui: Symposium participant, Reimbursement for travel PI (no salary support), Research grant, Invited course faculty

Non-Oral Poster 45

ROBOTIC-ASSISTED SACROCOLPOPEXY OR HIGH UTEROSACRAL LIGAMENT SUSPENSION: WHICH IS SUPERIOR IN IMPROVING QUALITY OF LIFE AND SEXUAL FUNCTION?

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Objectives: Minimally invasive treatments of pelvic floor abnormalities are preferred to enhance patients' overall surgical experience. The robotic modification of the abdominal sacrocolpopexy (RSC) has gained acceptance. Nevertheless, vaginal high uterosacral ligament suspension (USLS) is well established and offers the least invasive approach to address apical support. The literature to date is lacking adequate comparisons of these two procedures regarding quality of life and sexual function. We sought to evaluate quality of life, sexual function and postoperative anatomic outcomes following RSC and USLS.

Materials and Methods: This was an IRB approved retrospective study. Cases were identified using CPT codes for RSC and USLS from January 2010 to December 2011 in an academic urogynecology practice. Preoperative data obtained from the charts included demographics, POP- Q measurements,12 item short form health survey (SF-12), Pelvic Floor Impact Questionnaire-7 (PFIQ-7), Pelvic Floor Distress Inventory-20 (PFDI-20) and Prolapse and Incontinence Sexual Questionnaire-12 (PISQ- 12).Subjects underwent a POP-Q exam 6 weeks after surgery, and packets containing the above validated questionnaires were mailed to subjects a minimum of 6 months following surgery.

Results: 354 charts were reviewed. After excluding 14 due to incomplete data, a total of 125 underwent RSC and 215 patients received USLS. Several differences were observed in demographics and medical history. Mean age was 58.1 for RSC and 61.1 for USLS group. Patients undergoing RSC were more likely to have prior hysterectomy or urogynecologic surgery; however, patients undergoing USLS were more likely to have concomitant hysterectomy, anterior and posterior repair during their index surgery. All POP-Q measurements significantly improved from preoperative measurement regardless of the procedure (all p values <. 001).Postop POP-Q measurements between groups did not reveal significant differences except for total vaginal length (TVL).A greater increase in TVL was noted after RSC; this measure improved from 8.3 to 9.2 cm in the RSC, compared with an increase from 8.6 to 8.8 cm in the USLS group (p value <.001).

40 from the RSC and 91 from the USLS group completed follow up questionnaires (response rates 32% and 42%, respectively).Both RSC and USLS showed significant improvement in their PFDI-20, PFIQ-7 and PISQ-12 scores after the repair (all p values <.001).However, there was no significant difference noted in scores based on surgical treatment provided. Finally, there were no significant relationships noted between TVL and any of the validated questionnaires other than a modest correlation with the SF-12 Physical Score (r=0.171; p=0.049).

Conclusion: Patients undergoing both RSC and USLS for pelvic organ prolapse had significant anatomic and quality of life improvements. While TVL showed greater improvement after RSC, this did not appear to be related in patient symptomatology based on validated questionnaire scores at 6 months following repair. On this basis, we believe that surgeon expertise and appropriate patient selection should guide the route for apical repair.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Rachel N. Pauls: Research funding Scientific Advisory Board, Stock options

Non-Oral Poster 46

IS MORBID OBESITY A RISK FACTOR FOR TREATMENT FAILURE AFTER SURGERY FOR STRESS URINARY INCONTINENCE?

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Objectives: To evaluate morbid obesity as a risk factor for treatment failure and complication after surgery for stress urinary incontinence (SUI).

Materials and Methods: We identified women who underwent a midurethral sling by 2 surgeons from January 1, 2008 through December 31, 2009. Chart review was performed and a mailed out survey was sent for follow up. Morbid obesity was defined as body mass index (BMI) ≥40 kg/m2. Stress specific treatment failure was defined as a composite outcome including repeat anti-incontinence surgery for SUI or persistent stress specific incontinence. Logistic regression models were used to adjust for confounders. Statistics were performed using JMP 9.0 (SAS Inc, Carey NC).

Results: Out of 202 women included in the study, 76(37.6%) women had treatment failure (Table 1). Out of 202, 69(34.3%) women with BMI≥30; including 18(8.9%) morbid obese. In univariate analyses, the following were associated with higher failure rates: parity ≥5 with an unadjusted odds ratio (uOR) of 2.4 (95%CI 1.0-6.0); prior anti-incontinent surgery with uOR of 3.5 (95%CI 0.9,17.1); Mini-sling vs. retropubic with uOR of 2.2 (95%CI 1.2,3.9); and overt vs. occult incontinence with uOR of 2.4 (95%CI, 1.0-5.7). In morbid obese group, 10(55.6%) had treatment failure vs. 66(35.9%) in non-morbid obese with uOR of 2.2 (95%CI 0.9-5.9, P=0.09). In a multivariate analysis, adjusted OR for morbid obese group was 2.5 (95%CI 0.9-7.3, P=0.072). Total International Consultation on Incontinence Questionnaire (ICIQ) score was 9.6±6.9 in morbid obese vs.. 5.5±5.4 in non-morbid obese, P=0.026. Global improvement was reported in 13(72.2%) in morbid obese vs.. 145(79.7%) in the other group (P=0.473). Satisfaction with the procedure was reported by 12(66.7%) vs.. 138(75.0%) (P=0.452). Intraoperative complications were reported in 4 (22.2%) in morbid-obese vs.. 20(10.9%) in non-morbid obese (P=0.193). Surgery for mesh erosion was indicated in 1(5.6%) women in the morbid obese vs.. 4 (2.2.%) in the other group (P=0.439). Finally, urethrolysis was indicated in 1(5.6%) in morbid obese vs.. 13 (7.1%) in the non-morbid obese group (P=0.804).

Conclusion: Despite a trend towards for lower efficacy in morbid obese women, there was no difference in the patient-reported global improvement, satisfaction or complications between morbidly obese and non-morbidly obese groups.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

John Gebhart: Consultant, Advisory Board

TABLE 1: Baseline Characteristics

	Stress Specific Treatment Failure (n = 76)	No Treatment Failure (n = 126)	P-value
Age, mean	60.8 ±14.3	59.3±12.8	0.474
BMI (kg/m2), mean	31.1±8.9	29.6± 6.2	0.190
Caucasian	73 (96.1%)	120 (95.2%)	0.784
Parity, mean	3.2±1.7	2.7±1.2	0.046*
Menopausal status	45 (59.2%)	70 (55.6%)	0.611
History or current smoking	23 (30.3%)	36 (28.6%)	0.789
Concurrent advanced prolapse (grade III or more)	17 (22.4%)	37 (29.4%)	0.272
Concurrent Surgery	49 (64.5%)	85 (67.5%)	0.664
Preoperative urge incontinence	9 (9.7%)	14 (12.8%)	0.480
Occult incontinence	44 (47.3%)	53 (48.6%)	0.852
MUCP<20 cm H2O	5/46 (10.9%)	4/85 (4.7%)	0.195
Pressure change at Valsalva leak point <60 cm H2O	10/48 (20.8%)	17 (19.8%)	0.883
Mini-sling	44(47.3%)	49 (52.7%)	0.009*
Retropubic sling	32(29.3%)	77 (70.7%)	

BMI, body mass index; MUCP, maximum urethral closure pressure. * Significant P-value (P<0.05)

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PELVIC ORGAN PROLAPSE QUANTIFICATION SYSTEM-ADOPTION TREND IN THE SPECIALIZED LITERATURE (2004-2011)

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Objectives: Our aim was to describe the adoption trend of Pelvic Organ Prolapse Quantification System (POPQ) from 2004 to 2011 in the Urogynecologic literature according to the journal and authors' specialty and origin of the articles.

Overall proportion of use of prolapse quantification systems in published articles (2004-2011)

Prolapse quantification system	2004	2007	2009	2011	Cochran Armitage P-value
POPQ	71.0% (44/62)	86.0% (92/107)	88.9% (120/135)	84.4% (114/135)	0.03
Baden-Walker	30.6% (19/62)	15.9% (17/107)	13.3% (18/135)	16.3% (22/135)	0.03
Other	6.5% (4/62)	1.9% (2/107)	0.7% (1/135)	2.2% (3/135)	0.09

Materials and Methods: All issues from 2004, 2007, 2009 and 2011 from 9 specialized journals (American Journal of Obstetrics and Gynecology, British Journal of Obstetrics and Gynecology, British Journal of Urology International, International Urogynecology Journal, Journal of Urology, Neurourology & Urodynamics, Obstetrics & Gynecology, Female Pelvic Medicine and Reconstructive Surgery, and Urology) were reviewed by 2 independent reviewers. Articles were included if any attempt to quantify prolapse by any method was found. Reviews, editorials and abstracts were excluded. Prolapse quantifications systems were categorized as POPQ, Baden-Walker (BW) and other systems (OS). Articles using more than one system were included (so the sum of proportions can be greater than 1). Data extracted included country of origin of the manuscript, specialty of the first author and the journal of publication. Differences between the 2 reviewers were settled by a 3rd investigator. The proportions of POPQ use over the years were compared using the Cochran-Armitage test. All hypothesis testing was conducted at the 5% level of significance. Statistical analyses were performed using SAS Version 9.2 (Cary, NC).

Results: A total of 439 articles met inclusion criteria, 62 in 2004, 107 in 2007, 135 in 2009 and 135 in 2011. The proportion of articles using POPQ was 71.0% in 2004, 86.0% in 2007, 88.9% in 2009 and 84.4% in 2011.

The use of POPQ increased significantly from 2004 to 2011 (p=0.03). In contrast, the use of BW decreased in the same period (p=0.03). The greatest increase in POPQ use was observed in Urology journals (55.6% in 2004 to 100% in 2011, p<0.01), Obstetrics/Gynecology journals (57.9% in 2004 to 89.3% in 2011, p=0.03) and among the urologist authors (45.5% in 2004 to 90.9% in 2011, p<0.01). In Urogynecology journals, the POPQ use started and remained high (range 82.2-91.8%).

In the studied period, articles from the US started and maintained a high frequency of POPQ use (range 82.1-93.3%). Articles from Europe (60% to 84.4%, p=0.04) and other countries (46.2% to 85.4%, p=<0.01) showed significant increases in its adoption.

Conclusion: In conclusion, POPQ is currently the most frequently used prolapse quantification system in the Urogynecologic literature. Its adoption reached high levels in 2007 and has been stable since then with 86.5% of the articles using it. Journals and authors identified as Urogynecology, as well as articles from the USA, started with a high rate of POPQ use and maintained it over time. Urology and Ob/Gyn journals, urologist authors and articles from countries other than the US started with lower use but had the most significant increase since 2004.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
Michael D. Vardy: Honorarium - Speaker

Non-Oral Poster 48
ULTRASONIC THERMAL DAMAGE DURING ROBOTIC HYSTERECTOMY

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Objectives: Application of energy during colpotomy in minimally invasive hysterectomy creates thermal injury which may impair the healing process and increase vaginal cuff dehiscence; thus, the purpose of this study was to compare the extent of vaginal tissue damage in a swine model between the two power settings of ultrasonic energy (Harmonic® Scalpel) with the hypothesis that the higher power setting is faster and causes less thermal injury.

Materials and Methods: This was an IACUC-approved, prospective, single-blinded study analyzing energy-induced damage to the swine vagina during robotic hysterectomy. Multiple colpotomy transections were performed on 14 animals using robotic ultrasonic energy, the exact same platform used in human surgery. Activation times were recorded. Paired specimens (n=56) were analyzed by 2 veterinary pathologists blinded to the energy source and intensity. Tissue damage was assessed histologically with a scalpel-cut side of each specimen considered the control. Thermal injury was microscopically measured using the degree of magnification and internal cellular features as a basis for distance. Injury was measured from the point of energy transection to the nearest point that normal tissue was apparent (Figure 1). Rate was calculated (Rate=distance/time). Paired specimens were analyzed using nonparametric tests.

TABLE 1. Ultrasonic energy-induced tissue damage during colpotomy

	Setting 5 n=28	Setting 3 n=28	p value
Mean thermal injury (μm)	1205 ± 538	1207 ± 538	0.99
Mean colpotomy time (sec)	13.76 ± 8.65	17.61 ± 10.33	0.042
Mean rate of injury (μm/sec)	113.31 ± 73.54	88.11 ± 58.77	0.077

μm = micrometers, sec = second; significance set at p < 0.05

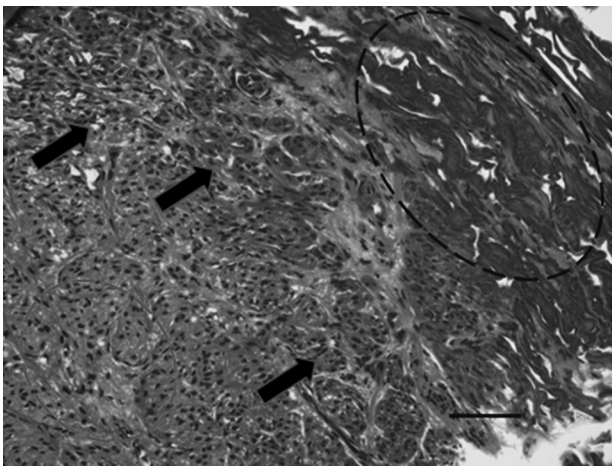

Figure 1. Swine vagina. The focal demarcation line of extensive tissue injury with complete disruption (black circle) followed by shrinking of sarcoplasm and loss of linear orientation of the collagen fibers (arrows). Normal tissue noted (red circle). Original magnification: 200x, Masson's trichrome, ultrasonic energy, setting 5. Bar size = 100μm.

Results: Mean thermal injury (μm) was not statistically different between Cut-Setting 5 and Coagulation-Setting 3 (1205 ± 538 vs. 1207 ± 538; 95% CI [-254, 250], p=0.99). Time (sec) to complete transection was significantly shorter when using Setting 5 (13.76 ± 8.65 vs. 17.61 ± 10.33; 95% CI [-7.81, -0.16], p=0.042). However, the rate of injury (μm/sec) for Setting 5 also trended towards being higher (113.31 ± 73.54 vs. 88.11 ± 58.77; 95% CI [-2.92, 53.31], p=0.077).

Conclusion: In these swine vaginal specimens, energy-induced tissue damage was not statistically different for the two ultrasonic power settings. Cut-Setting 5 was faster and appeared to have a higher rate of damage; however, this was equivalent to the distance of tissue injury observed with the use of Coagulation-Setting 3 that had a slower rate of injury. In larger human specimens, the use of Cut-Setting 5 may be recommended as it is faster and causes an equivalent amount of injury to Coagulation-Setting 3.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
The authors report no disclosures.

Non-Oral Poster 49

HIGH FIDELITY LAPAROSCOPIC SACROCOLPOPEXY TRAINER SIMULATES COMPLEX TASKS AT LOW COST

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Objectives: Laparoscopic simulation trainers often do not accurately reflect the complex anatomy, technical considerations, and ergonomics encountered during reconstructive pelvic surgery. The purpose of this study was to describe anatomic features and cost analysis for a low cost, high fidelity laparoscopic sacrocolpopexy simulation model.

Materials and Methods: A laparoscopic box trainer was constructed using inexpensive materials commonly found either at a local hardware store or online. Anatomic accuracy of the model was based on published data on relationships of the anterior abdominal wall, pelvic dimensions, and landmarks of the bony pelvis. Port site locations were determined for simulated umbilical, lateral and suprapubic access. To reproduce the sacrocolpopexy mesh attachment site, a simulated vaginal cuff was attached at its estimated location based on the pubic arch from a life-size model pelvis. Cost analysis was performed.

Results: The model utilizes a dome shaped tray to simulate the curvature of the anterior abdominal wall with production of pneumoperitoneum (Figure). Rubber gaskets were used to simulate port sites, which accommodate trocars ranging from 5-12 mm, produce a wide range of motion allowing instruments to toggle in all directions, and replicate the pivoting action at the skin interface. The model allows for independent training via closed-circuit camera attached to the trainer. Alternatively, two people can practice together using a laparoscope, enhancing communication and task coordination between surgeon and assistant. The simulated vagina is angled and can be mounted to elevate either the anterior or posterior cuff. In addition, suturing on the vaginal walls simulates the effects of suturing mesh to the vagina against a vaginal probe. The model can be mounted in trendelenburg position, and be adapted for other laparoscopic procedures. In order to reproduce restricted surgical space and complex lumbosacral angles, the trainer can be used with a model bony pelvis mounted inside. It is light weight and portable with a set up time of 5 minutes or less, and also functions as a self-storage unit for transport of instruments, suture and other equipment. The trainer costs less than $100 (Table).

Conclusion: To encompass the anatomic and technical features unique to laparoscopic sacrocolpopexy, a high-fidelity model may be necessary for proper skill acquisition. This can be accomplished with a low cost simulation model that is simple to construct with easily available components. Further testing and validation studies are warranted.

Cost Analysis for Laparoscopic Sacrocolpopexy Model (US dollars)

PART	COST PER UNIT	QUANTITY	TOTAL
Gasket	6.19	4	24.76
Tray with Cover	24.47	1	24.47
Camera	15.00	1	15.00
Pipe Fitting	0.52	1	0.52
Velcro	2.97	3	8.91
Acrylic Sheet	3.98	1	3.98
Menu Holder	2.94	1	2.94
External Light Source	15.99	1	15.99
TOTAL			96.57

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: The authors report no disclosures.

Non-Oral Poster 50

"IF YOU WERE ME DOC, WHAT WOULD YOU DO?" A COMPARISON BETWEEN UROGYNECOLOGY PRACTICE PREFERENCES FOR SELF AND FAMILY VERSUS CURRENT PRACTICE PATTERNS, A PILOT SURVEY. KAROLYNN ECHOLS, MD, UZMA CHAUDHRY, MD, CAROL GLOWACKI, MD, KRYSTAL HUNTER, MBA

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Objectives: Frequently physicians are asked by patients, "What would you do if you were me?" Although objective facts should be provided, doctors have personal opinions of medical decisions appropriate for themselves, family and patients. There is dialogue regarding potential disparity in these opinions secondary to media and industry influence. The purpose of this survey was to compare urogynecology practice preferences for self and family versus actual practice patterns.

Materials and Methods: The survey was designed to query physicians regarding recommendations on hypothetical pelvic floor disorders of themselves and family members in addition to current practice patterns. Electronic links to a 34-item questionnaire (Survey Monkey®) were sent to American Urogynecologic Society members. Answers were analyzed for consistency using Pearson Chi Square and Phi Correlation.

Results: Of the 1406 surveys sent, 210 members responded (15% response rate). Over fifty percent of respondents were female; 42% of respondents had been practicing for 10 years or less. All geographic areas were represented. Most respondents were fellowship trained (57%) and practiced urogynecology (43%). For SUI, although the retropubic sling was the most practiced procedure, there were a significantly higher proportion of women (78%) compared to men (64%) when choosing for themselves ($p < .01$) or family ($p<. 01$). Transobturator sling responses were more commonly recommended by males (33%) as opposed to physical therapy by women. Pessaries (87%) were utilized more commonly among the female responses (87%) to treat uterine prolapse versus men (66%), who mostly performed uterosacral suspensions. For practice preference, there was a significantly higher percentage of women (46%), who would choose pessary for themselves than men (34%) for their family members ($p=.02$). Uterosacral suspensions were the preferred procedure for family in male responses (43%) than female (30%) preference for themselves ($p<.01$). All responses for treatment of prolapse correlated with the practice patterns (women: $r=.53$, $p <.01$; men: $r= .46$, $p<.01$). More women preferred vaginal hysterectomy and traditional repair for themselves (36%) versus a uterine sparing repair for male responses to treatment of family (39%). Common recommendations among male respondents for family included pessary use (34%). Synthetic graft repairs were not commonly chosen for cystoceles or rectoceles by women or men for practice preferences or patterns.

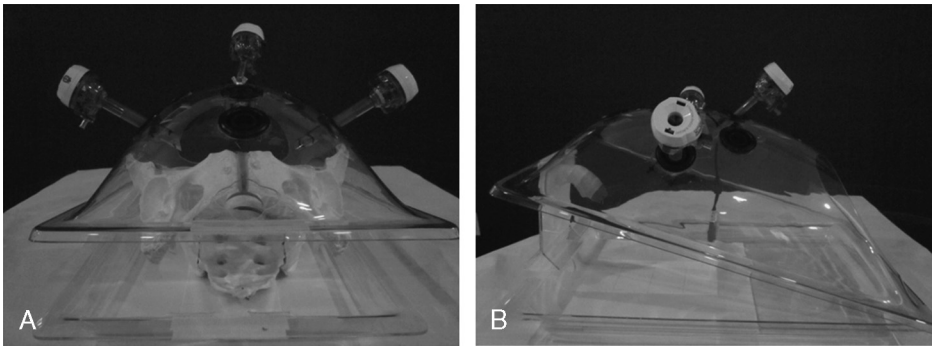

Figure. Laparoscopic Sacrocolpopexy Model. Frontal view (Panel A), lateral view (Panel B).

Conclusion: The survey shows positive correlation between practice preferences for self, family and practice patterns in urogynecology. This may reduce preconceived notions about physicians and outside influence on treatment choices. Women preferred conservative management versus men. When questioned about procedures for prolapse, women preferred hysterectomy while men preferred a uterine sparing procedure. It appears synthetic graft was uncommon as a treatment choice. Current practice may have been affected by the 2010 FDA Update on transvaginal mesh.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
Karolynn T. Echols: Honorarium - Speaker, Consulting fee

Non-Oral Poster 51
COMPARISON OF LAPAROSCOPIC UTEROSACRAL LIGAMENT SUSPENSION WITH SACROCOLPOPEXY

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Objectives: Two laparoscopic colpopexy techniques to treat pelvic organ prolapse (POP) are the sacral colpopexy (SC) and uterosacral ligament suspension (USLS). The decision which to perform in POPQ stage II prolapse is often subjective. This study compares outcomes of these techniques in order to determine if a better guide for procedure selection exists.

Materials and Methods: All laparoscopic colpopexies for stage II POP performed in 2010 were identified. Anatomic outcome data including anatomic cure (postoperative POPQ stage ≤1) and improvement in point C, Ba and Bp was collected. Changes to the Pelvic Floor Distress Inventory SF 20 (PFDI) measuring symptomatic improvement was reviewed. Pearson's Chi-square and Student's t-test were used for statistical analysis.

The SC utilized a 'Y' mesh that was secured to the anterior and posterior endopelvic fascia with Gore-Tex and PDS sutures. The proximal end of the mesh was attached to the anterior longitudinal ligament at S1 with helical tacks. The USLS was done by placing a running suture of 0 Gore-Tex through the proximal, middle and distal third of the uterosacral ligament and then the proximal posterior and anterior endopelvic fascia. A second 0 Gore-Tex was placed through the middle third of the uterosacral ligament and attached to a more medial portion of the proximal posterior and anterior fascia. A final suture was placed at the midline, plicating the anterior and posterior endopelvic fascia.

Results: Of 167 patients who underwent laparoscopic repair of POP, 135 had complete post operative measurements. Of these, 43 patients (15 USLS/28 SC) had stage II prolapse and were included in the study.

No statistically significant difference in demographic characteristics or follow-up length (6-9 months) was found between the two groups. The USLS group underwent more paravaginal defect repairs (p=0.01) and uterine conserving surgeries (p=0.04). Better anatomic success (postoperative stage ≤1) and anterior compartment support was found in the SC group. All failures in the USLS group were in the anterior compartment. Nonetheless, the USLS group showed statistically significant better postoperative scores in the PFDI total and colorectal indexes (Table).

Conclusion: The USLS is a good minimally invasive technique for POP repair that appears to offer excellent success rates for stage 2 prolapse. The SC seems to provide better anatomic results than USLS especially for the anterior compartment, but does not seem to give better symptomatic results.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
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Non-Oral Poster 52
INTERACTION OF CONSTIPATION AND URINARY DYSFUNCTION IN WOMEN

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Objectives: The objective of our study is to evaluate a cohort of patients with constipation to determine whether the symptoms of urinary urgency, frequency and incontinence are correlated with the presence of constipation and with measurements of anorectal function.

Materials and Methods: This is a prospective cohort of women who met the Rome III criteria for functional constipation and completed bowel and urinary symptom assessment and validated quality of life questionnaires (Pelvic floor distress inventory, including Urinary Distress Inventory (UDI-6) and pelvic floor Impact Questionnaires, short forms and Constipation Severity Instrument). Anorectal physiology was assessed with 1) anorectal manometry testing (mean and maximal resting pressures and maximum squeeze pressure and balloon expulsion test), 2) rectal sensation, tone and compliance testing (first sensation and maximum tolerated volume) and 3) Electromyography testing (EMG). Patients with neurologic disorders, connective tissue disorders and prior proctectomy (J-pouch) were excluded from the study. Presence of urinary symptoms (urinary frequency or hesitancy, urge [UUI] or stress urinary incontinence [SUI] per answers to UDI-6 questionnaire) was correlated with the parameters of anorectal function testing using Kruskal-Wallis and Chi-square statistics (SPSS-20).

Results: Out of 114 patients with chronic constipation evaluated between May 2011 and March 2012, 74 met inclusion criteria. Out of 74 women with constipation 57 (76%) reported one or more urinary symptoms, 43 (58%) reported urinary frequency and 30 (40%) reported urge UI. Table 1 summarizes demographic characteristics of women with and without UUI. Women with any urinary symptoms had significantly lower maximum tolerated rectal volume (ml) (p=0.03). Subset analysis confirmed only women with UUI had significantly lower maximum tolerated rectal volume (ml) (p=0.023). There were no differences in other parameters of anorectal physiology testing between women with and without urinary symptoms (Table 2).

Conclusion: Three quarters of patients with chronic functional constipation reported concomitant urinary symptoms (frequency, hesitancy, stress or urge UI). Women with constipation who reported UUI demonstrated significantly lower maximum tolerated rectal volume testing. These findings suggest that rectal and urinary compliance and sensation interact.

Comparison of Outcome Between AS and USLS

	Laparoscopic Sacrocolpopexy n-28			Laparoscopic Uterosacral Ligament Suspension n-15		
	Pre-op	Post-op	Change	Pre-op	Post-op	Change
Ba (cm) +/- SD	0.1 +/-1.1	-2.6 +/-0.4	-2.7 +/-1.1	-0.1 +/-0.8 p=0.506 95%CI -0.4,0.8	-2.2 +/-0.7 p=0.05 95%CI -0.9,-0.001	-1.2 +/-1.4 p=0.08 95%CI -1.3,0.1
Bp (cm) +/- SD	-1.3 +/-1.2	-2.6 +/-0.5	-1.3 +/-1.3	-1.3 +/-1.2 p=0.957 95%CI -0.8,0.8	-2.5 +/-0.5 p=0.546 95%CI -0.4,0.2	-2.1 +/-1.1 p=0.87 95%CI -0.9,0.8
C (cm) +/- SD	-3.7 +/-1.6	-8.6 +/-0.8	-4.9 +/-1.9	-5.2 +/-2.2 P=0.025 95%CI 0.2, 2.9	-7.6 +/-1.8 P=0.068 95%CI -2.0,0.1	-2.3 +/-2.5 P=0.002 95%CI -4.1, -1
PFDI total +/- SD % reduction	30.7 +/-14.4	12.4 +/-11.8	-14.8 +/-15.5 48%	21.7 +/-16.6 P=0.111 95%CI -2.3, 20.3	5.2 +/-6.7 P=0.037 95%CI 0.5,13.8	-17.2 +/-15.1 79% P=0.69 95%CI -9.6,14.3
PFDI prolapse +/- SD % reduction	8.9 +/-4.4	3.2 +/-4.1	-4.5 +/-3.8 51%	5.7 +/-4.7 P=0.047 95%CI 0.04, 6.5	1.75 +/-2.3 P=0.192 95%CI -0.8,3.8	-4.2 +/-5.3 74% P=0.85 95%CI -4.2, 3.5
PFDI colorectal +/- SD % reduction	10.8 +/-7.5	5.4 +/-5.2	-4.1 +/-9.0 38%	7.7 +/-7.4 P=0.232 95%CI -2.1, 8.35	1.8 +/-3.2 P=0.024 95%CI 0.5, 6.6	-5.4 +/-6.0 70% P=0.63 95% CI -4.3, 7.0
PFDI Genitourinary +/- SD % reduction	10.9 +/- 6.1	3.7 +/-4.8	-6.3+/-6.2 58%	8.3 +/-7.7 P=0.291 95%CI -2.4, 7.8	1.7 +/-2.4 P=0.127 95%CI -0.6,4.6	-7.4 +/-6.9 89% P=0.64 95%CI -4.1, 6.5
Surgical Cure (≤stage 1)		100% (28/28)			87% (13/15) p=0.037	

AS- Laparoscopic sacrocolpopexy USLS- Laparoscopic uterosacral ligament suspension PFDI- Pelvic Floor Distress Inventory short form 20. Student's t-test, Pearson's Chi-square used for comparison

Constipation patients with and without UUI

Characteristics	UUI present (n=30)	UUI absent (n=44)	p-value
Age (years)	54 (+/-14)	49 (+/-15)	0.1
Vaginal parity	2 (1-3)	0 (0-2)	0.02
Menopause	20/30	24/40	0.3
BMI (kg/m2)	27 (+/-5)	25 (+/-4)	0.06
UDI-6	40 (+/-20)	17 (+/-14)	<0.0001
CSI scores			
Colonic inertia subscale	11 (+/-6)	11 (+/-6)	0.9
Obstructive defecation subscale	20 (+/-6)	19 (+/-6)	0.9
Pain subscale	4 (+/-4)	4 (+/-3)	0.7

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
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Non-Oral Poster 53
SEXUAL FUNCTION IN SUDANESE WOMEN AFTER SURGICAL REPAIR OF CONCURRENT PELVIC ORGAN PROLAPSE AND FEMALE GENITAL MUTILATION

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Objectives: The objective of this study is to describe change in sexual function in women after undergoing repair of POP and introital revision for FGM.

Materials and Methods: Participants were Sudanese women who presented to the Omdurman New Hospital, Khartoum, Sudan for surgical repair of both POP and FGM between January 2006 and June 2012. Details of the clinical presentation, surgical procedures performed and surgical duration were collected prospectively. Return to sexual activity and satisfaction were assessed postoperatively.

Results: Eight-hundred forty-two women with history of FGM underwent surgical repair of pelvic organ prolapse and introital revision. Of those cases, six- hundred eighty three women (683/842 = 81%) had pelvic organ prolapse that was significantly masked on examination by scarring from FGM. Surgical access to vaginal repair of the POP was compromised by FGM scarring; introital revision was necessary in all cases. In comparison to POP repair without FGM injury, the operative time was prolonged in these cases by 45 minutes on average. Postoperative infection was seen in thirteen women (13/842=1.5%). Six-hundred and nine women (609/842=72%) returned for postoperative assessment at 3 months. Of those cases who had been assessed, four- hundred and nine women (409/609=67%) had return of sexual activity with good satisfaction. Twenty three women (23/609=4%) were unsatisfied with sexual activity postoperatively because they felt that the introitus was widened. The remaining one- hundred seventy seven women (177/609= 29%) were not sexually active at 3 months after surgery.

Conclusion: Women with FGM may have POP that is masked by introital scarring. Surgical repair of these conditions concomitantly results in satisfactory sexual function.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
The authors report no disclosures.

Non-Oral Poster 54
SURGICAL PROCEDURES IN UROGYNECOLOGY: HOW MUCH DO PATIENTS RECALL?

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Objectives: Studies demonstrate that only a fraction of preoperative counseling is retained by patients. Our aim in this study was to describe how accurately women recall their urogynecology procedures.

Materials and Methods: We conducted a cross-sectional survey of women who underwent prolapse or incontinence surgery at our institution. Women were eligible if they had surgery with any of five surgeons in our practice and were presenting for routine follow up at least 3 weeks after surgery. Participants were asked to complete a short questionnaire asking about their prolapse and/or incontinence surgery. Charts were reviewed for demographics and surgical history; self-reported responses were compared to the medical record for accuracy. Data are presented as proportion, mean ± standard deviation or median (interquartile range). Chi-square and Fisher's exact tests were used for comparisons.

Results: To date, 169 women have completed the questionnaire; 95.3% were Caucasian and 56.6% completed college or postgraduate education. The mean age was 60.8 ± 10.8 years. Many (58.9%) were employed, and 26.3% worked in health care.

The median postoperative period was 12.3 months (5.9-27.1). Most (81%) respondents had one prior procedure, and 16.1% had two prior procedures. Nearly all (92.3%) agreed that their physicians and nurses spent enough time educating them before their surgery.

When queried, many women had difficulty recalling that they underwent certain procedures. Of 109 women who correctly recalled that their procedure was for repair of pelvic organ prolapse, 69 (63.3%) incorrectly recalled at least one part of their procedure. Of the 25 women who had an anterior vaginal wall repair, 76.0% did not recall having the procedure. Of the 144 women who did not have anterior vaginal wall repair, 26.4% thought they did or were not sure . Of the 32 women who had posterior vaginal wall repair, 43.8% did not recall having the procedure. Of the 137 women who did not have posterior vaginal wall repair, 29.9% reported they had it or were not sure. When asked about suburethral sling, sacrocolpopexy, and cystoscopy procedures, 89.2%, 61.3%, and 19.9% respectively, correctly recalled having each procedure.

Additionally, in these 109 women, 14.0% were incorrect when asked if synthetic mesh was used during their procedure. More than 1 out of 10 women (12.5%) did not recall or were unsure that mesh was used during their sacrocolpopexy.

Forty-five women correctly reported they had a procedure for incontinence, while 18 (11%) of women were incorrect in their recollection. Of these, 17.8% incorrectly recalled whether synthetic mesh was used.

Approximately half (45.0%) of respondents reported that they were shown a piece of mesh prior to surgery. Of prolapse patients who correctly recalled having mesh placed, 56.1% said they were shown mesh preoperatively; in contrast, 85.7% of women who incorrectly recalled the use of mesh reported they were not shown a mesh piece (P=0.004).

Conclusion: Many patients have suboptimal recall of their reconstructive surgical history, including a significant number who are unable to report whether they have implanted mesh. Patient recall of mesh placement may be improved by seeing a piece of mesh prior to the procedure.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
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Non-Oral Poster 55
SACROCOLPOPEXY (ROBOTIC ASSISTED AND LAPAROSCOPIC): IS OUTCOME BETTER WITH FELLOWSHIP TRAINED UROGYNECOLOGIST?

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Objectives: To compare the practice pattern, peri-operative and surgical outcomes for the minimally invasive sacrocolpopexy performed between the two groups of surgeons in a single health institution; certified urogynecologist vs. combined minimally invasive gynecologist (MIS) and urologists.

Materials and Methods: A retrospective chart review of 127 patients who underwent laparoscopic and robotic assisted sacrocolpopexy over a 5 year period from January 2006 to December 2011 was performed. The primary outcome was to compare the peri-operative parameters between the fellowship trained urogynecologist and other surgeons (MIS and urologist). Secondary outcomes were analysis of the difference in the practice pattern, anatomic success, complications, and reoperation rate. Anatomic success was defined as POP-Q ≤ stage1, or if there was no mentioned of the descriptive term "failure" if the POP-Q system was not used.

Results: Over a 5 year period, urogynecology surgeons performed more minimally invasive sacrocolpopexy than the other 2 surgeons group combined (N=94 vs.. 33). There were 2 surgeons in the urogynecology group and the other group had 3 urologists and 3 minimally invasive surgeons. Median follow up time of patients were longer for the urogynecologist (9 months) as compared to the MIS and urologist (6 months). POP-Q system was used as a standard measurement system amongst the urogynecologist while the other

2 groups used descriptive language such as "well supported, good healing, patient very pleased". Urogynecology surgeons were more likely to offer pessary as an initital treatment as compared to the second group (62.8% vs.. 38.5%, p=0.027). A significantly more number of patients treated by the urogynecology group were offered surgical treatment at stage 2 (56.4 % vs.. 6.1%, p=0.001). The urogynecology group had longer operative time (197.6 vs.. 115.9 min, p <0.001) and more blood loss (384 vs.. 236 mL, p<0.001) than the other. Patients in the urogynecology group tended to have a higher BMI (30.5 vs.. 27.6, p=0.014) and were younger (55 vs.. 68 years, p<0.001). The urogynecology group performed more concomitant procedures which included hysterectomy (56.4% vs.. 12.1%), adhesiolysis (45.7% vs.. 21.2%), other prolapse repair (91% vs.. 9%), and anti-incontinence procedures (71% vs.. 15.2%) with p=0.001. Cystotomy occurred more often within the MIS and the urology group as compared to urogynecology group (12.1% vs.. 2.1%, p=0.039). Rate of readmission (p=0.183), enterotomy (p=0.165), mesh erosions (p=0.720) were not significantly different between the two groups. Success rate defined as POP-Q ≤ stage 1 was not significantly different between the two groups (p=0.346).

Conclusion: There is a difference in the practice pattern for sacrocolpopexy between the urogynecologist and other surgeon group. Urogynecologist were more likely to perform concomitant procedures, this may explain the increase operative time and blood loss. Patients seen by urogynecologist were more likely to try a pessary, but at the same time, urogynecologist had the highest rate of offering pessary as another treatment option.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

The authors report no disclosures.

Non-Oral Poster 56

USE OF A LOW-PRESSURE COLONIC POUCH (MAINZ II) URINARY DIVERSION FOR IRREPARABLE VESICOVAGINAL FISTULA AND BLADDER EXTROPHY IN ERITREA: OUR LONG-TERM EXPERIENCE

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Objectives: To describe our experience with urinary diversion in Eritrea using the low-pressure sigmoid Mainz II pouch in patients with irreparable obstetric fistula and bladder exstrophy

Materials and Methods: Since February 2004, a fistula treatment program developed by the Eritrean Ministry of Health, the Eritrean Women's Project and the United Nations Population Fund (UNFPA) has treated over 800 cases of obstetric fistula. During this time period, we have performed 50 Mainz II pouches (48 cases of irreparable fistula and 2 cases of bladder exstrophy). On our most recent trip (February 2012), we reviewed the charts of all 50 diversion patients, focusing on the occurrence of known long-term complications of urinary diversion: infections, renal function, and acidosis.

Results: Results: All 50 patients were discharged to their families with a median length of stay of 20 days (range 9-166). 39 (78%) of patients had at least 1 follow-up visit six months or greater from surgery and 46 (92%) patients have had at least verbal follow-up. Four patients were lost to follow-up. Median follow-up was 64 months and mean follow-up was 56 months. Severe urethral damage combined with scarring was present in over 90% of fistula cases. Over 60 % of patients had previous attempts at primary closure. Immediate post-operative complications (primarily fever that resolved with intravenous antibiotics) were seen in 25% of patients. Approximate one-third of patients report nighttime incontinence. All patients had laboratory evidence of acidosis. Four women were able to have successful pregnancies after diversion; two babies were delivered by cesarean section and two by vaginal delivery. One woman had a full term stillbirth and one woman had a miscarriage. None of the pregnant women experienced a change in their bowel/urinary continence after pregnancy. Seven patients have died (14%) 2-5 years from diversion: 3 from sepsis or renal failure, 3 from unrelated causes and 1 from an unknown cause.

Conclusion: We have performed urinary diversions using the Mainz II sigmoid pouch in 50 patients with manageable postoperative morbidity no perioperative mortality. Acidosis and nighttime incontinence are common long-term complications.

Patients with irreparable obstetric fistula present a unique clinical and logistical challenge in developing nations. The immediate and long-term risks of urinary diversion with the Mainz II pouch must be balanced not only against the medical risks of an untreated obstetric fistula but also the societal isolation that accompanies it. We believe in the carefully selected patient that the Mainz II pouch offers a balanced solution to this difficult problem. Long-term surveillance with local collaboration is essential for the success of the Eritrean program.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

The authors report no disclosures.

Non-Oral Poster 57

PERCEPTIONS OF POST HYSTERECTOMY CYSTOSCOPY IN OBSTETRICS AND GYNECOLOGY TRAINING PROGRAMS

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Objectives: The primary aim was to characterize the practices of Obstetrics and Gynecology (OG) residency training programs regarding post hysterectomy diagnostic cystoscopy.

Materials and Methods: A brief, anonymous, electronic survey to program directors and residents at 235 American Council of Graduate Medical Education (ACGME) accredited OG residency programs. Measures included in both surveys were type of cystoscopy training available at the program, estimates on how often post hysterectomy cystoscopy is performed, typical indications for post hysterectomy cystoscopy, type and time of exposure to Female Pelvic Medicine and Reconstructive Surgery (FPMRS). Statistical analysis was performed using SPSS (Chicago, IL). Chi-square test of association was used to compare nominal data.

Results: Sixty-one of 235 program directors (26%) and 394 of 1325 (29.7%) of residents completed the survey. The majority of residents (95%) who received training reported having experience with cystoscopy in the operating room. Residents with FPMRS fellowships were more likely to perform routine cystoscopy after hysterectomy in their training compared with residents without fellowships (39% versus 27%, p = 0.01). Residents graduating from programs with FMPRS fellowships reported they would always perform routine cystoscopy more often than those without a fellowship program (30.3% versus 17%).

Eighty seven percent of responding program directors stated they have the ability to certify graduating residents as competent to perform diagnostic cystoscopy. Program directors defined competency as the number performed (53%), by a competency checklist (45%) and through direct observation of the procedure (95%). No significant differences were noted in the reported use of routine cystoscopy by program directors after hysterectomy, with or without a fellowship program (62% versus 48%, p=0.38).

Conclusion: Residents in OG programs are receiving cystoscopy training, most commonly in the operating room, less often with simulation. However, 19% reported receiving no training. Training programs with FPMRS fellowships may influence the performance of routine cystoscopy post hysterectomy. Graduating residents exposed to FPMRS fellowships are more likely to always perform cystoscopy post hysterectomy than those without fellowship exposure.

A majority of program directors certify graduating OG residents as competent to perform cystoscopy, and most rely on direct observations of the procedure.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Suzanne M. Kavic: Claims and Underwriting Committee, Honorarium

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Non-Oral Poster 58

ROBOTIC ASSISTED SACROCOLPOPEXY: COMPARING SURGICAL OUTCOMES BETWEEN UROGYNECOLOGY, MINIMALLY INVASIVE GYNECOLOGY, AND UROLOGY SURGEONS

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Objectives: To compare the practice pattern, perioperative and surgical outcomes for robotic sacrocolpopexy performed by surgeons from different specialties in a single health system.

Materials and Methods: A retrospective chart review of patients who underwent robotic assisted sacrocolpopexy by surgeons from urogynecology, minimally invasive gynecology surgery (MIS), and urology departments was performed. The primary outcome was to compare the perioperative parameters between the three types of surgeons. Secondary outcomes were analysis of the difference in the practice pattern, anatomic success, complications, and reoperation rate.

Results: The retrospective chart review yielded 59 patients (urogynecology N=26, minimally invasive gynecology N=19, and urology N=14) who underwent robotic sacrocolpopexy over 5 years between January 2006 to December 2011. There were 2 urogynecologist , 3 MIS and 3 urologists who performed these surgeries. A median follow time up for the three groups was shortest for the minimally invasive gynecology surgeons (3.5 months). For urogynecology and urology, it was 7.5 and 9 months respectively. More patients in the urology cohort had failure of their repair (23.1%) as compared to urogynecology (16.7%) and MIS (12.5%) group. However a statistical significant difference was not present when these groups were compared to each other (p=0.806). The total operating time for urogynecologist was twice as much as MIS and urologists (411.8, 255.7, and 205.3 min. respectively, p=0.001). There was no statistical significant difference in the operating time between MIS and urology surgeons (p=0.077). In the urogynecology cohort, 80% of patients had additional vaginal repair procedures and 61.5% had anti-incontinence procedure combined with the robotic sacrocolpopexy while urology had no concomitant procedures. MIS group had concurrent hysterectomy in 21.2%, vaginal wall repair in 15.1%, and anti-incontinence procedures in 26.3% of patients. Reoperation rate for correcting stress urinary incontinence was higher for the urology group (23.1%) as compared to the urogynecology group (12%). The length of stay was longer in the urogynecology group (2 days) as compared to the other two groups (1 day). POP-Q was not utilized by the urology department while the MIS group used it inconsistently (2 out of 19 patients). No statistical significant difference was noted in the rate of visceral injury, change in hemoglobin, and mesh erosion in all the three groups.

Conclusion: There is a difference in the practice pattern for performance and follow up after robotic sacrocolpopexy between surgeons from different disciplines within the same health system. The operating time is more for the urogynecology group but they are also more likely to perform concomitant procedures. Reoperation rate for stress urinary incontinence is higher among the urology group. There is no difference in the rate of complications noted among the three groups.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: The authors report no disclosures.

Non-Oral Poster 59

MIDURETHRAL SLING COMPLICATIONS AT A LARGE ACADEMIC TRAINING PROGRAM

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Objectives: To report the intra and postoperative complications after midurethral sling (MUS) at a large academic center and evaluate for differences between the public and private hospital settings.

Materials and Methods: This was a single-site IRB-approved retrospective observational study. Electronic medical records from 1/2010 to 8/2012 were reviewed on patients who underwent outpatient isolated MUS at the University of Texas Southwestern Medical Center (UTSW), which includes Parkland Hospital (PH)—a public hospital, and St. Paul Hospital (SPH)—a private hospital. Data collected from each hospital setting included demographics, intraoperative and postoperative complications, and postoperative voiding dysfunction. Chi-square testing was used to compare complications differences between the hospitals.

Results: A total of 130 patients had isolated MUS (8 transobturator and 122 retropubic) at UTSW; 95 at PH and 35 at SPH. Average age was 50 years (SD 11, range 19-87) and average BMI was 31.4 kg/m2 (SD 6.6, range 19.4-49.4). 64 (49.2%) were Hispanic, 43 (33.15%) Caucasian, 12 (9.2%) African American, 4 (3.1%) Asian, and 7 (5.4%) unknown. Surgery duration was longer at PH compared with SPH (59 vs.. 40 minutes, p<.001). Intraoperative complications occurred in 18 (13.8%) patients. Bladder perforations occurred in 14 of 130 (10.8%) overall, 13 (13.7%) at PH and 1 (2.9%) at SPH, p=.08. There was one case each (1.1%) of urethral injury, vaginal fornix epithelial perforation, intraoperative retropubic hemorrhage that required admission and blood transfusion, and bladder base abrasion that occurred at PH, with an overall 0.8% occurrence at UTSW. 18 (13.8%) patients with intraoperative complications were discharged with an indwelling catheter for 3-5 days and 100% passed an in-office "fill-and-pull" active bladder test (ABT) with 300 cc of sterile water. Postoperative vaginal mesh extrusion was noted in 5 total cases (3.8%), 3 of 95 (3.2%) at PH and 2 of 35 (5.7%) at SPH. 1 of the mesh extrusions at PH was managed with surgery, 1 with estrogen cream, and 1 with mesh trimmed in office. Both SPH mesh erosions were managed with surgery. The 112 patients without intraoperative complications underwent ABT before discharge. 22 of these (19.6%) failed the ABT and were discharged with an indwelling catheter; 13 of 79 (16.5%) at PH and 9 of 33 (27.3%) at SPH, p=.19. One of the PH patients who initially passed her ABT, returned to the emergency room one day post-op with urinary retention and passed an ABT 7 days later. 20 of the 22 patients who initially failed the ABT passed at next clinic visit; 1 patient passed the ABT at a second clinic visit after 8 days. 2 of the 130 (1.5%) patients (both PH patients) had prolonged urinary retention after retropubic sling placement and required excision of the suburethral portion of MUS, 12.6 and 14.2 months postoperatively; both had resolution of retention.

Conclusion: Intraoperative complications of midurethral sling at a large academic institution were not uncommon. Complications, including bladder perforation, were slightly more frequent at the public hospital setting; however, this was not significantly different than at the private setting. Surgical revisions after a MUS for prolonged retention were rare.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: The authors report no disclosures.

Non-Oral Poster 60

SURGICAL PRIVILEGING IN GYNECOLOGY: A FELLOWS' PELVIC RESEARCH NETWORK (FPRN) STUDY

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Objectives: To describe the criteria used by U.S. hospitals to grant surgical privileges for select gynecologic procedures, and to compare the privileging processes between academic and community hospitals.

Materials and Methods: We conducted a cross-sectional study from January 2011 to August 2012 including institutions represented by FPRN members. We developed a 5-page, anonymous survey regarding criteria for initial granting and maintenance of surgical privileges for 14 common gynecologic procedures including: midurethral slings, trocar-based vaginal mesh for prolapse, vaginal suspension procedures, robotic hysterectomy and sacrocolpopexy. Information on training requirements and minimum number of supervised cases were obtained. Appropriate hospital representatives completed the surveys. Criteria for privileging were described and compared between academic and community hospitals using Fisher's exact test.

Results: Of the 24 institutions that completed surveys, 46% were from the Northeast, 33% from the Midwest, 17% from the Southeast, and 4%from the South/Southwest. Most (58%) were university-based, and 42% were community-based. The designated representative who completed the survey varied between institutions.

For slings, 71% required completion of fellowship, 44% required completion of a preceptorship program, and 41% required a minimum number of supervised procedures. For trocar-based transvaginal mesh, 64% required completion of fellowship, 32% required completion of a preceptorship program, and 32% required a minimum number of supervised procedures, ranging from 3-10 procedures. For vaginal suspension procedures, 70% required completion of fellowship, 26% required completion of a preceptorship program, and 27% required a minimum number of supervised procedures. Among institutions with a robotic surgical system, 18% and 33% required completion of a fellowship for privileging in robotic hysterectomy and sacrocolpopexy, respectively. Fifty-two percent required completion of a preceptorship program, and 90% required a minimum number of supervised cases, ranging from 2-20 cases for both procedures. Most institutions did not require a minimum number of annual cases for maintenance of privileges, with the exception of robotic procedures.

Academic centers differed from community hospitals in terms of credentialing requirements. A higher proportion of community hospitals

compared to academic centers required preceptorship for operative laparoscopy (55.6% vs. 8.3%, p=0.046), laparoscopic hysterectomy (77.8% vs. 8.3%, p=0.006), robotic hysterectomy (88.9% vs. 18.2%, p=0.007), robotic sacrocolpopexy, (88.9% vs. 11.1%, p=0.003), and sacral neuromodulation (66.7% vs. 0%, p=0.005).

Conclusion: Considerable variability exists in the criteria used by U.S. hospitals for surgical privileging in gynecology. When compared to academic centers, community hospitals required preceptorship more often for minimally invasive hysterectomy, robotic sacrocolpopexy, and sacral neuromodulation.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

The authors report no disclosures.

Non-Oral Poster 61

RISK FACTORS FOR LOWER URINARY TRACT INJURY AT THE TIME OF HYSTERECTOMY FOR BENIGN REASONS - A FELLOWS' PELVIC RESEARCH NETWORK STUDY

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Objectives: To identify risk factors associated with lower urinary tract injury at the time of performing hysterectomy for benign indications; specifically, we sought to determine if hysterectomy approach increased risk of bladder or ureteral injury.

Materials and Methods: We conducted a multi-center case-control study of women undergoing hysterectomy for benign disease. Cases were identified via ICD-9 codes for lower urinary tract injury at the time of hysterectomy from 2007 to 2011: controls were two subsequent hysterectomies following the index case in the same institution that did not have lower urinary tract injury. Charts were reviewed for clinical, demographic and surgical data as well as the nature of the lower urinary tract injury. Bladder and ureteral injuries were analyzed separately. Logistic regression was used to perform univariate and multivariate comparisons between groups.

Results: At 7 centers 135 cases and 270 controls were identified. Cases comprised 118 bladder injuries and 25 ureteral injuries; 8 women had both bladder and ureteral injury. Cases and controls did not differ in age, (mean age 45.2 +/- 7.6 vs.. 46.1 +/- 9.5 years, p=NS) or Ethnicity/Race (45 vs.. 49% Caucasian, p=NS) and body mass index (27.9 +/-11.6 vs.. 29.1 +/- 12.1 Kg/m2, p=NS). The majority of hysterectomies among cases were performed with a minimally invasive approach i.e. vaginal and /or laparoscopic; 34 vaginal, 40 laparoscopic and 61 open. On multivariate analysis, specific hysterectomy type was not associated with bladder injury; however, bladder injury was associated with a history of prior cesarean section OR 2.3, 95%CI 1.5 - 3.7 and women with bladder injury were more likely to undergo blood transfusion OR 2.4, 95%CI 1.2 - 4.9. Women with ureteral injury were more likely to have undergone laparoscopic-assisted vaginal hysterectomy (LAVH) OR 5.8, 95%CI 1.8 - 19.2 and similar to those with bladder injuries, women with ureteral injuries were more likely to undergo blood transfusion OR 11.6, 95%CI 4.2 - 32.5 and have concurrent bowel injury OR 17.6, 95% CI 2.1 - 145.

Conclusion: Bladder injury at the time of benign hysterectomy is associated with a prior history of Cesarean section; ureteral injury is associated with LAVH.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Rebecca Rogers: Data Safety Monitoring Chair for TRANSFORM Trial, Honorarium, Course instructor

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Non-Oral Poster 62

NOVEL TECHNIQUE FOR TRANSVAGINAL REPAIR OF A RECTOVAGINAL FISTULA - A CASE REPORT

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Objectives: Our objective is to present a novel transvaginal technique for repair of a rectovaginal fistula.

Materials and Methods: This is a case report of a 49 year-old female who had a successful transvaginal rectovaginal fistula repair using a novel technique after four prior rectal advancement flaps.

Results: The patient was a gravida 3, para 3 who had sustained a 4th-degree laceration during her first vaginal delivery. Although the obstetric laceration was repaired, she immediately noted stool and flatus per vagina. She sought no treatment until after her next vaginal delivery, at which time a rectal advancement flap was performed. She was asymptomatic for several months and then her symptoms returned. No treatment was sought until 5 years later. She had a 2nd rectal advancement flap, which again led to symptom resolution for several months followed by a return of her symptoms. Approximately 4 years later she had 2 more rectal advancement flaps performed with 6-7 months intervening. She noted flatus and stool per vagina shortly after the 4th advancement flap.

On examination, she was noted to have a large, approximately 1.5 cm-diameter rectovaginal fistula, 1.5 cm cephalad to the hymen; the fistula was palpably larger on the rectal side (~2/3 of the anterior rectal wall) (Figure).

There was concern that the size of the fistula and scarring from her prior surgeries would preclude excision of the tract and adequate mobilization of the tissue surrounding the fistula needed for a successful conventional repair. Instead, the fistula tract was split in the midline and mobilized laterally for 2-3 cm around the tract. The epithelialized fistula tract was then used to replace the missing anterior rectal wall. The vaginal muscularis and distal fibromuscular tissue of the perineum was then imbricated with vertical mattress stitches. A third layer of vaginal epithelium was then reapproximated with interrupted stitches over the region of the repair, followed by advancement of the vaginal epithelium over the fourchette to the perineal body; paradoxical closure was used to prevent narrowing at the introitus.

Conclusion: Rectovaginal fistulas occur in up to 3% of women who had previously sustained 3rd- or 4th-degree obstetric lacerations. Commonly-used surgical treatments for these fistulas include transanal advancement flaps and transvaginal repairs. Our clinical experience suggests a high rate of failure of advancement flaps, likely due to retraction of the flap and subsequent enlargement of the fistula. We therefore prefer transvaginal repairs. Our usual technique involves resection of the fistulous tract and tension-free multilayer closure of the rectovaginal tissues. However, this would not have been feasible in this case due to the size of the patient's fistula and extensive scarring of the surrounding tissue due to her 4 prior fistula repairs. Incorporation of the fistula tract into the closure allowed for a tension-free closure and added extra tissue to the thin rectovaginal septum. This technique may therefore be useful for patients who have had multiple rectovaginal procedures.

At 6 months postoperatively, she continues to deny anal incontinence and has no stool or gas per the vagina.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

The authors report no disclosures.

Non-Oral Poster 63

USE OF ANALYTIC HIERARCHY PROCESS TO EVALUATE PHYSICIAN DECISION COHERENCE IN PRIORITIZING PELVIC FLOOR TREATMENT OUTCOMES

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Objectives: To evaluate physician decision coherence using the analytic hierarchy process (AHP). It is hypothesized that coherence is influenced by physician demographics (e.g. gender, years of practice) and that treatment outcome priorities vary across clinical vignettes and physician demographics that are predictive of decision inconsistencies or incoherence.

Materials and Methods: Physicians were presented 4 clinical vignettes during telephone interview. The four clinical vignettes portrayed a woman: (1) choosing a mesh prolapse repair; (2) choosing a non-mesh prolapse repair; (3) choosing an incontinence surgery; and (4) choosing a pessary. Physicians were asked to choose the priority of pelvic floor symptoms (e.g. anatomic, bladder, bowel and sexual) for the hypothetical woman in each vignette. Next physicians were presented fifteen pair-wise choices across six outcome criteria (high durability, normal anatomy, normal function, low risk, low cost, high compliance) and asked to evaluate the relative importance of the each criterion. These choices were reconstructed to render

overall priorities for the six criteria and determine the consistency of their evaluations using SuperDecisions AHP software.

Results: Of the 34 physicians interviewed, 4 were internists, 27 were FPMRS specialists (20 indicating fellowship training), and 3 were generalist Ob/Gyns. Mean physician age was 44.6 years (range 32-60); mean years of practice was 10.7 years (range 0-27); 20 were fellowship trained and 32 of 34 physicians reported treating >1 woman per week for a pelvic floor problem. Physicians varied widely in describing the subject in each vignette (V): Generally the subject's age was in the 35-64 range for V1 and V3, 50-65+ for V2, and predominately 65+ for V4. Most important symptoms were Anatomy for V1, V2 & V4 but, as expected Bladder was the predominate concern for V3. Overall, the priorities of all six criteria were significantly different across the 4 vignettes, all $p < .001$; however, average inconsistency scores were .21, .20, .15 and .20 for V1-V4, respectively, with no statistically significant differences between groups. (Generally, inconsistencies above .10 are considered high.) However, the range of inconsistencies within each vignette was quite large ranging from .01 to 1.14. Correlations between physician factors such as age, sex, fellowship-trained, and specialty were not significant for any of the vignettes and regressing inconsistency on these four variables failed to account for more than 10% of the variance for any of the vignettes.

Conclusion: The wide variability in physician responses and evaluation of the paired criteria may reflect on our methodology, which allowed the physicians to personalize the patient in the vignette. However, this approach should not have affected the AHP inconsistency index per physician per vignette. The inability to correlate inconsistency with physician factors begs the question, if not education and experience, what influences the physician's logic in linking diagnosis to treatment.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: The authors report no disclosures.

Non-Oral Poster 64
THREE DIMENSIONAL KINEMATIC ANALYSIS OF THE SHOULDER JOINT DURING SIMULATED VAGINAL HYSTERECTOMY

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Objectives: The objective of this pilot study was to describe the kinematics of the dominant and non-dominant shoulder joints during simulated vaginal hysterectomy.

Materials and Methods: Three fellowship-trained urogynecologists performed a simulated vaginal hysterectomy. Prior to data collection, the simulated vaginal hysterectomy was subdivided into specific tasks. The following specific tasks were assessed: clamping, cutting, and tying of the uterosacral, cardinal and utero-ovarian ligaments with removal of the uterus, placement of the modified-McCall and re-peritonealizing stitches and closure of the vaginal cuff. A set of infrared markers was placed on anatomical landmarks on the subject's trunk and bilateral upper extremities. Kinematic parameters were acquired with a computerized video motion analysis system. Joint ranges of motion in both the dominant and non-dominant shoulder joints in the frontal, sagittal and horizontal planes of movement were collected. Descriptive statistics were used to calculate means and standard deviations for each surgeon.

Results: There was considerable variability in the mean joint angles for each specific task among the surgeons in both the dominant and non-dominant shoulder. The dominant shoulder was found to have a greater range of motion in the frontal, sagittal and horizontal planes than the non-dominant shoulder for the simulated vaginal hysterectomy. The dominant shoulder also had a greater maximum joint angle in the sagittal plane compared to the non-dominant shoulder in all three surgeons.

Mean Joint Angles during Simulated Vaginal Hysterectomy

Surgeon	Shoulder Side	Frontal plane Mean Joint angle degrees (SD)	Sagittal plane Mean Joint angle degrees (SD)	Horizontal plane Mean Joint angle degrees (SD)
1	Dominant	62.38 (17.48)	32.42 (12.77)	18.65 (12.32)
	Non-dominant	68.11 (14.54)	31.18 (9.52)	22.73 (11.21)
2	Dominant	59.46 (21.17)	46.83 (13.37)	20.03 (18.88)
	Non-dominant	74.78 (13.15)	45.96 (10.24)	20.08 (14.13)
3	Dominant	80.17 (27.52)	32.98 (13.69)	29.74 (16.71)
	Non-dominant	69.13 (22.17)	30.60 (11.03)	28.49 (11.79)

Conclusion: In this pilot study, kinematic analysis of the shoulder demonstrated that there was considerable variability in mean joint angles among three surgeons performing simulated vaginal hysterectomy. However, there was greater range of motion in the dominant shoulder compared to the non-dominant shoulder.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: John Gebhart: Consulting fee, Advisory Board

Non-Oral Poster 65
THE USE OF PORCINE DERIVED URINARY BLADDER MATRIX (UBM) IN THE TREATMENT OF VAGINAL EPITHELIAL GAPS

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Objectives: The objective is to demonstrate how the UBM can be used to add surface area to vaginal epithelium. The UBM can be used to fill in gaps caused by mesh erosion, vaginal agglutination, and post operative complications as well as for increasing vaginal length in vaginal agenesis and in radiated vaginal tissue.

Materials and Methods: UBM is a non-crosslinked, completely resorbable, acellular extracellular matrix. The material has a basement membrane and a lamina propria. UBM has collagens and proteins and will remodel site-specific tissues where scarring would be expected. The material completely resorbs within 8 weeks. One of the biggest dilemmas in pelvic reconstructive surgery is figuring out where to obtain healthy tissue to fill gaps or add vaginal surface area. Rotation flaps and donor site tissue are most often used. The properties of UBM allow the graft to be used to fill small and large defects with natural and healthy remodeling of native vaginal epithelium. Our technique is demonstrated using an example of mesh erosion, but is applied in a similar fashion for other vaginal disorders. The mesh is resected, along with all of the epithelial granulation. The defect is measured, the UBM trimmed to size, and then stitched into place with 4-0 vicryl sutures along the periphery and within its interior. The basement membrane side is applied to the defect. A petroleum jelly gauze is applied to the graft, followed by packing with saline dipped kerlex. The vaginal introitus is sewn shut with interrupted sutures and a Foley catheter is left in place. Post op day 3 the introital sutures are cut and the gauze removed. The patient applies estrogen cream to the vagina every other night for 2 weeks and then 2x/week for the next 2-3 months.

Results: The UBM allows for natural remodeling of normal vaginal epithelium. There is no difference in the new tissue when histologically compared to surrounding intact epithelium.

Conclusion: Surgical cases which require more vaginal surface area can use UBM without worrying about not having enough tissue to close defects or add surface area. This material completely remodels normal tissue and resorbs within 2-3 months.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Alan D. Garely: Honorarium - Speaker

Non-Oral Poster 66
CLINICAL SIGNIFICANCE OF PAIN IN WOMEN WITH PELVIC ORGAN PROLAPSE

M. F. Ackenbom, U. U. Andy, H. S. Harvie, L. A. Arya *Department of Obstetrics and Gynecology, Hospital of the University of Pennsylvania, Philadelphia, PA.*

Objectives: The goal of this study was to determine the clinical significance of pain in women with pelvic organ prolapse (POP). Our aim is to compare urinary and bowel symptoms and quality of life in women with and without pain and a diagnosis of pelvic organ prolapse.

Materials and Methods: We performed a cross-sectional study in 247 women with pelvic organ prolapse presenting to a Urogynecology clinic for their initial evaluation between December 2009 and August 2011. Patients were included in the study if they had stage 2 or greater prolapse. Patients were excluded from study if they had a history of neuropathy or other nervous system disease/disorder. All women completed a visual analogue score of

their average pain intensity over the previous four weeks. Women with prolapse and pain (VAS > 3) were compared to women with prolapse and no pain. All women completed validated questionnaires to measure urinary symptoms (Urinary Distress Inventory), bowel symptoms (Birmingham Bowel Scale and Colorectal-Anal Distress Inventory), and quality of life (Urinary Impact Questionnaire and Colorectal-Anal Impact Questionnaire). Urinary, bowel, and quality of life symptom scores were compared between the two groups using Mann Whitney test.

Results: The prevalence of pain (VAS >3) in women with pelvic organ prolapse was 22% (54/247). We compared 54 patients with POP and pain to 193 women with POP and no pain. Mean age, parity and stage of prolapse were not significantly different between groups. The POP and pain group had a higher BMI (28.9 ± 6.1 v 26.9 ± 5.7, p=0.02) and more prior abdominal surgeries (62% v 46% p=0.048) than women with POP and no pain. Total Urinary Distress Inventory score was significantly worse in women with POP and pain than in women with POP and no pain (76.1 ± 16.3 v 67.4 ± 18.6, p=0.01). Women with POP and pain had significantly greater urinary frequency (p=0.002) and difficulty emptying the bladder (p=0.007). Both Birmingham Bowel Scale Score (14.1 ± 9.6 v 7.8 ± 7.4, p<0.001) and Colorectal Anal Distress Inventory score (70.9 ± 19.2 v 58.2 ± 17.7, p= 0.006) were significantly worse in patients with POP and pain than in women with POP and no pain. In addition, condition specific quality of life scores (bowel and bladder) were significantly worse in women with POP and pain than those with POP and no pain (p<0.001). All differences between the groups remained significant after controlling for BMI and prior surgery.

Conclusion: Women with POP and pain are more likely to report worse urinary and bowel symptoms and quality of life than women with POP and no pain. This finding has important implications for women considering surgical management of pelvic organ prolapse.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: The authors report no disclosures.

Non-Oral Poster 67

PERSISTENT POSTOPERATIVE GRANULATION TISSUE FOLLOWING VAGINAL PROLAPSE REPAIR

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Objectives: We sought to report rates and risk factors for persistent postoperative granulation tissue (GT) in women undergoing reconstructive vaginal prolapse surgery.

Materials and Methods: This retrospective cohort study used procedure codes to identify all patients who underwent vaginal-approach reconstructive prolapse surgery over a 3-year period. Demographic, medical history, medications, operative details and follow-up data were obtained from charts. Surgical procedures and suture and implant types were abstracted from operative notes. Rates of pre-specified outcomes, including persistent GT (GT on exam > 2 months after surgery) and reoperation for GT, were calculated by procedure type. Associations were studied between potential risk factors and GT outcomes.

Results: 164 patients underwent vaginal reconstructive prolapse surgery by two attending surgeons. One was excluded (no postoperative exam), leaving 163 patients with median (range) 5 (1-39) months follow-up. Mean±SD age was 60±13 years. 35% and 23% had prior hysterectomy and prolapse surgery, respectively. 12% smoked. Procedures included hysterectomy (36%), apical suspension (53%), anterior repair (37%), anterior repair with graft (40%), posterior repair (60%), and posterior repair with graft (14%). 84 of 85 grafts placed were biologic (all cross-linked porcine dermis). Permanent suture was used in 76 (89%) graft placements, including Ethibond (73) and Prolene (3), and in 81 (93%) apical suspensions, including Ethibond (41), Gore-tex (35) and Prolene (5). Persistent GT occurred in 31 (19%) patients, and 7 (4%) had re-operation for GT at median (range) 10 (5-28) months after initial surgery. The highest rates of persistent GT and re-operation occurred in patients who had iliococcygeal suspension (all with Ethibond) (82 and 45%, respectively) and anterior graft placement (24 and 6%, respectively). (See Table.) All patients who had re-operation (7 patients, 8 surgeries) had permanent Ethibond sutures removed. In addition to use of Ethibond, multivariate analysis suggested use of anterior graft and apical suspension significantly increased the risk of persistent GT. Patient-related factors were not associated with persistent GT.

Conclusion: Postoperative persistent granulation tissue was not uncommon (19%) in this cohort of native tissue and biologic graft-augmented vaginal prolapse surgery patients. Anterior biologic graft placement, apical suspension, and in particular, use of Ethibond suture are procedure-related risk factors for persistent granulation tissue.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: The authors report no disclosures.

Non-Oral Poster 68

SOCIOECONOMIC STATUS AND RACE/ETHNICITY AS PREDICTORS FOR TREATMENT-SEEKING BEHAVIOR FOR PELVIC ORGAN PROLAPSE

H. D. Brazell[1], D. M. O'Sullivan[2], P. Tulikangas[1] *[1]Hartford Hospital (UNiversity of Connecticut), Hartford, CT; [2]Research Administration, Hartford Hospital, Hartford, CT.*

Objectives: Many studies regarding pelvic organ prolapse (POP) involve women who are already integrated into a healthcare system. Conclusions drawn from population-based studies regarding POP are based largely on findings from White women and may not be generalizable to racial and ethnic minorities, nor to women of lower socioeconomic status (SES). This study evaluates the prevalence of POP among a group of racially/ethnically diverse women and seeks to evaluate whether race/ethnicity and/or SES are factors in treatment-seeking behavior for POP.

Materials and Methods: All data were supplied by the National Institute of Diabetes and Digestive and Kidney Disorders (NIDDK) and collected from the National Institutes of Health-supported Boston Area Community Health (BACH) Survey. Data on POP were collected via a bilingual interviewer-administered self-reported questionnaire to White, Black, and Hispanic subjects. SES was calculated by a two-factor index that combined household income with years of education. Inferential statistics comprised one-way analysis of variance (ANOVA), with a post hoc Scheffé's test performed to evaluate whether there were differences between individual groups. A chi-squared test was used to evaluate whether distributions were equal among the various questions by race/ethnicity and SES category.

Results: There was an equal distribution of races/ethnicities among the 3,205 female subjects included in the analysis. The prevalence of POP was 4.2% with significant differences by race/ethnicity (Table 1). Hispanic ethnicity was significantly associated with a diagnosis of POP (p<0.002). Hispanics were more likely than Blacks or Whites to seek treatment for prolapse (p=0.007) and to undergo subsequent surgical repair (p=0.027). Although women of a higher SES were more likely to have POP, SES was neither associated with a higher likelihood of seeking treatment (p=0.060 for uterine prolapse and p=0.830 for cystocele/rectocele) nor with the surgical management of prolapse (p=0.648).

Conclusion: Hispanic ethnicity is associated with seeking treatment for POP. Hispanics are also more likely than Whites or Blacks to proceed with

Rates of Persistent Granulation Tissue and Reoperation for Persistent Granulation Tissue after Vaginal Reconstructive Prolapse Surgery by Procedure

Procedures	N	N(%) with Persistent Granulation Tissue	p-value	N (%) with Reoperation for Granulation Tissue	p-value
Overall cohort	163	31 (19.0)	–	7 (4.3)	–
Hysterectomy	59	14 (23.7)	NS	1 (1.7)	NS
Apical suspension -Uterosacral -Iliococcygeal -Sacrospinous	87 72 11 4	25 (28.7) 16 (22.2) 9 (81.8) 0 (0)	<0.001	6 (6.9) 2 (2.8) 5 (45.5) 0 (0)	NS
Anterior Repair	127	30 (23.6)	0.003	7 (5.5)	NS
Posterior Repair	120	21 (17.5)	NS	5 (4.2)	NS
Graft -Anterior -Posterior -Both	85 61 18 5	27 (31.8) 26 (42.6) 0 (0) 1 (20.0)	<0.001	7 (8.2) 7 (11.5) 0 (0) 0 (0)	0.01

Patients with uterine prolapse and/or cystocele/rectocele by race/ethnicity

	Black (n=1070)	Hispanic (n=1111)	White (n=1024)	χ2 p-value
Uterine prolapse	31 (2.9%)	26 (2.4%)	36 (3.5%)	0.281
Treatment for uterine prolapse	23 (74.2%)	20 (76.9%)	21 (58.3%)	0.271
Cystocele/rectocele	16 (1.5%)	41 (3.7%)	33 (3.2%)	0.005
Treatment for cystocele/rectocele	14 (87.5%)	35 (85.4%)	25 (75.8%)	0.466

surgical management for their prolapse. However, there is no correlation of SES with any of the above factors.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
The authors report no disclosures.

Non-Oral Poster 69
COLOVAGINAL FISTULAS - DIAGNOSTIC TIPS AND TRICKS

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Objective: Review our recent experience with management of colovaginal fistulas.

Description: We identified 19 patients with colovaginal fistula managed during 1990-2011. Their average age was 64 years and median parity 2. 89% were initially seen by a gynecologist. 37% complained of flatus per vagina; 89% noted stool per vagina; and 68% complained of vaginal discharge. 95% had previously undergone hysterectomy.

Fistulas were visualized on speculum exam in 79%; in 60% of these, the fistula was at the left apex. All had contrast enemas with rolling from side to side to determine if the sigmoid colon was fixed to the vagina - fistula was directly identified in 42%; indirect evidence was seen in another 21%. Only 37% of the subjects reported a history of diverticulitis, but based on imaging and operative findings, it was felt that the fistulas resulted from diverticulitis in 79%.

The combination of vaginal examination and operative findings place the fistulas at the left apex in 90%. All patients underwent resection of the segment of sigmoid colon harboring the fistula, 84% with primary anastomosis. Postoperatively, 12.5% had anastomotic leaks, 11% had UTI, and 5% had cellulitis. 1 patient complained of gas per vagina and 2 reported persistent stool per vagina. Only 1 patient had documented recurrence of her fistula, after a diverticulitis flare.

Conclusion: A majority of patients with colovaginal fistulas are initially referred to gynecologists but may not be recognized right away. A triad of signs/symptoms that should trigger a high index of suspicion for these fistulas includes: 1) stool/flatus per vagina or vaginitis resistant to treatment; 2) previous hysterectomy; and 3) history of diverticulitis (although many patients do not report this diagnosis). While fistulas are only seen in ½ of contrast enemas, rolling the patient during the study can improve its sensitivity. Fistula repair via rectosigmoid resection and reanastomosis is safe and effective.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
The authors report no disclosures.

Non-Oral Poster 70
DUAL LAPAROSCOPIC ABDOMINAL AND VAGINAL APPROACH IN SURGICAL CORRECTION OF ADOLESCENT SYMPTOMATIC HEMATOCOLPOS

S. T. Mama *Ob/Gyn, Cooper Medical School of Rowan University, Cooper Univ. Hosp., Camden, NJ.*

Objective: To describe a minimally invasive approach in the evaluation and surgical correction of adolescent symptomatic hematocolpos associated with obstructed hemivagina in patients with uterus didelphys.

Description: In adolescent patients with uterus didelphys and symptomatic hematocolpos associated with obstructed hemivagina, exploratory laparotomy and partial hysterectomy for the obstructed uteri can be avoided by using a dual laparoscopic approach. A 10 mm laparoscope is utilized abdominally with indigo carmine injected directly into the obstructed uterine cavity and a 5 mm laparoscope utilized vaginally, each with separate towers. Navratil retractors are used and the obstructed hemivagina is dissected open using long instruments with visualization provided via the laparoscopic tower. This allows adequate exposure in adolescent patients.

Conclusion: Adolescent hematocolpos associated with obstructed hemivagina in patients with uterus didelphys can be treated in a minimally invasive manner, avoiding partial hysterectomy. This dual laparoscopic approach has been successfully utilized in three patients to date.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
The authors report no disclosures.

Video Presentation 1
VAGINAL HYSTERECTOMY: INSTRUMENTATION REDEFINED

D. K. Veronikis, S. C. Wood, G. P. Puthoff *Obstetrics and Gynecology, Mercy Hospital - St. Louis, Saint Louis, MO.*

Objective: Vaginal hysterectomy remains the preferred cost-effective approach for benign disease when compared to other modalities. However, resident exposure to vaginal hysterectomy has waned as attending experience has decreased. Maintaining this cornerstone skill set of vaginal surgery is of paramount importance.

Difficulty in obtaining adequate exposure through retraction may be a factor in the decline of hysterectomies performed vaginally and classified as technically not feasible. These conditions are mitigated by instrumentation that provide and enable maximum exposure with minimum effort.

The objective of this video is 1) to introduce and apply instrumentation that eliminates exposure dependent upon hand held retraction during vaginal hysterectomy and 2) to provide techniques that facilitate successful vaginal hysterectomy, particularly in patients with large uteri, lack of descent, and nulliparity.

Description: This video demonstrates surgical footage of the instrument application and techniques required to obtain the exposure necessary to complete difficult or straightforward vaginal hysterectomy. Highlighted during the case are distinct clamps, forceps, retractors, and the Martin's arm, a table mounted articulating retractor holder. The standard hand held retractors are secured within the Martin's arm, and the combination provides hands-free, unrelenting exposure. These essential instruments free the surgeon and learner from holding any retractors during vaginal hysterectomy and improve visualization and education. This standardization of instrumentation reinforces repetition, reduces variability, and allows for variation in individual anatomy.

Conclusion: By redefining and applying these specific instruments, the number of conditions precluding vaginal hysterectomy diminishes. This video depicts the utilization of these instruments, providing surgeons the opportunity to offer the vaginal approach to a greater number of patients.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
The authors report no disclosures.

Video Presentation 2
WHAT YOU SEE IS WHAT YOU GET: THE ANATOMY OF APICAL SUPPORT

E. C. Crosby, C. Betschart Meier, J. O. DeLancey *University of Michigan, Ann Arbor, MI.*

Objective: The objective of this video is to review the anatomy of the cardinal and uterosacral ligaments, two structures essential to uterovaginal support.

Description: The role of the apex in overall vaginal support is well-established. However, the level of knowledge of the anatomy of apical support varies amongst clinicians and researchers alike. Furthermore, much of this knowledge has come from books and other sources that at times convey misinformation.

This is an educational video that focuses on the anatomy of the cardinal and uterosacral ligaments, which are the primary supports of the vaginal apex. We examine the overall anatomy of the cardinal and uterosacral ligaments utilizing clinical images, cadaver specimens and magnetic resonance imaging. For the cardinal ligament, we focus on the nature of the tissue, its origin and insertion and its orientation. For the uterosacral ligament, we focus on its regional nature and components, as well as its orientation.

Conclusion: An understanding of the anatomy of apical support is important not only for investigating the pathophysiology of prolapse, but also its

treatment. The use of clinical images and video, cadaver specimens and MRI can enhance our knowledge of apical anatomy.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
John O. DeLancey: Investigator, Research contract with U of M

Video Presentation 3
PERIURETHRAL MASS: A PUZZLING ENITITY

E. Tunitsky, M. Carmel, B. Ridgeway, H. Goldman *Female Pelvic Medicine and Reconstructive Surgery, Cleveland Clinic, Cleveland, OH.*

Objective: The objective of this video is to review the symptoms and physical findings of various periurethral masses as well as to address diagnostic approach and surgical management.

Description: Periurethral masses in women are relatively rare. Limited literature is available regarding presentation, diagnosis and management of these cases and therefore the true incidence is difficult to estimate. The differential diagnosis of a periurethral mass includes urethral diverticulum, leiomyoma, vaginal wall inclusion cyst, Skene's gland cyst or abscess, urethral prolapse and urethral caruncle. Presenting symptoms of periurethral masses may overlap. A careful history and physical examination helps distinguish one entity from another and guide further workup and management. History and physical examination is typically sufficient to make the diagnosis. When diagnosis is unclear various imaging modalities are available and may be helpful. In this video we present examples of the most common periurethral tumors as well as provide a case illustrating surgical management.

Conclusion: Periurethral masses in women are rare. The symptoms and physical findings of various diagnoses often overlap. Imaging may be helpful in narrowing the diagnosis and may be helpful for surgical planning. Imaging however must be interpreted in the context of the presentation and the physical examination.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
The authors report no disclosures.

Video Presentation 4
PARTIAL COLPOCLEISIS: A TEACHING MODEL

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Objective: To describe assembly and use of a simulation model for teaching partial colpocleisis.

Description: Each year, approximately 200,000 women in the United States undergo pelvic reconstructive surgery with the aim of restoring normal anatomy. However, medical co-morbidities make some women more susceptible to the risks of these procedures. Obliterative surgery such as colpocleisis offers excellent results for such women who have no intent of engaging in vaginal intercourse.

Simulation models have become valuable to medical training allowing for accelerated learning while improving the safety and quality of patient care.

This video presents step-by-step instructions for the assembly of a colpocleisis simulation model, and it provides guidance on how to use the model to teach the procedure.

Conclusion: This video describes a simple and inexpensive (total cost $22) simulation model for teaching colpocleisis.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
The authors report no disclosures.

Video Presentation 5
ANATOMIC CONSIDERATIONS OF SACROCOLPOPERINEOPEXY

C. R. King, T. Lee *OB/GYN, Magee-Womens Hospital of UPMC, Pittsburgh, PA.*

Objective: The purpose of this video is to illustrate detailed vascular and neural anatomy that may be encountered while performing a sacrocolpoperineopexy. This enhanced knowledge of the relevant pelvic structures will, in turn, increase surgeon confidence and patient safety during pelvic dissection.

Description: Laparoscopic sacrocolpoperineopexy is a complex procedure involving intricate anatomy of pelvic vasculature and nerves. A thorough knowledge of the surrounding anatomy at each level of dissection is critical to ensure a safe and efficient procedure. This video illustrates the detailed anatomy of the presacral space showing spatial relationships between the vasculature, nerves, and ureters. The video also illustrates the anatomy of the superior hypogastric nerve plexus and its course into the pelvis. Lastly, dissection into the pararectal space and the relationship to the middle rectal artery is described.

Conclusion: In order to effectively perform a sacrocolpoperineopexy, the surgeon should have an intimate knowledge of the anatomy of the pelvis to avoid injury to the surrounding vasculature and nerves.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
Ted Lee: Honorarium - Consultant

Video Presentation 6
OVERLAPPING SPHINCTEROPLASTY AND POSTERIOR REPAIR

A. K. Crane, E. M. Myers, Q. K. Lippmann, C. A. Matthews *University of North Carolina, Chapel Hill, NC.*

Objective: To demonstrate an effective technique of overlapping sphincteroplasty and posterior repair.

Description: Knowledge of how to anatomically reconstruct extensive posterior compartment defects is important for practicing gynecologists and urogynecologists. Education in this, however, is variable amongst postgraduate programs. Results of isolated overlapping anal sphincteroplasty for the management of fecal incontinence are disappointing with complete functional success reported in approximately 60% of patients and long-term success rates decreasing to 25% at 10 years. However, younger women who present with extensive obstetric perineal injury and undergo sphincteroplasty in addition to a posterior repair, such as a modification of the Noble-Mengert-Fish operation as described by Veronikos et al., have shown far more promising anatomic (94%) and functional (90%) results.

In this video, a scripted storyboard was constructed that outlines the key surgical steps of a comprehensive posterior compartment repair which include 1) surgical incision that permits access to posterior compartment and perineal body, 2) dissection of the rectovaginal space up to the level of the cervix, 3) plication of the rectovaginal muscularis, 4) repair of the internal and external anal sphincters, and 5) reconstruction of the perineal body. Using a combination of graphic illustrations and live video footage, tips on repair are highlighted including the use of interrupted subcuticular perineal stitches that have been reported to decrease perineal pain. The goals at the end of repair are to: have improved vaginal caliber, increased rectal tone along the entire posterior vaginal wall, have the posterior vaginal wall at a perpendicular plane to the perineal body, reform the hymenal ring, and not have an overly elongated perineal body.

Conclusion: This video provides a step-by-step guide for how to perform an overlapping sphincteroplasty and posterior repair.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:
Catherine A. Matthews: Fellowship Director, Fellowship Grant Support Case observation site, Honorarium - Consultant

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Video Presentation 7
LAPAROSCOPIC EXCISION OF BLADDER ENDOMETRIOSIS

D. Lum, S. Mansuria *Obstetrics, Gynecology and Reproductive Sciences, Magee-Womens Hospital of UPMC, Pittsburgh, PA.*

Objective: We report a case of bladder endometriosis that was successfully excised laparoscopically.

Description: We present the case of a 22-year-old gravida 0 woman who presented with chronic pelvic pain and painful urination that worsened with menses. She initially underwent a cystoscopy by a urologist who discovered a 3 cm reddish-brown lesion at the dome of the bladder that was partially resected via cystoscopy. Final pathology revealed endometriosis of the bladder. The patient continued to have persistent urinary symptoms and subsequently underwent a laparoscopy and cystoscopy for preoperative planning. During this surgery, a bladder nodule was visualized laparoscopically, partially obliterating the anterior cul-de-sac. On cystoscopy, the nodule was noted to be at least 2 cm away from the bilateral ureteral orifices.

The patient underwent a second laparoscopy for excision of the bladder endometriosis. Five-French bilateral ureteral stents were placed preoperatively to help identify the ureters and avoid injury. The bladder nodule was mobilized from the uterus and cervix by dissecting the vesicouterine space.

Superiorly, the Space of Retzius was entered to skeletonize the nodule and enable the cystotomy to be repaired without tension. The cystotomy was initially made superior to the nodule to avoid injury to the ureters. The nodule was excised in its entirety. At the completion of the cystotomy repair, the bladder was retrograde filled to ensure a watertight closure. On cystoscopy, the suture line was noted to be well away from the ureteral orifices. The patient's symptoms resolved and her pathology was consistent with endometriosis involving the bladder wall.

Conclusion: When surgery is indicated, bladder endometriosis can be successfully treated via laparoscopic excision. Placement of ureteral stents as well as dissection of the vesicouterine and retropubic spaces can be helpful in successfully completing the surgery.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Suketu Mansuria: Surgeon Educator, Honorarium

Video Presentaton 8
LAYERED CLOSURE FOR CLOACAL DEFORMITY AFTER SEVERE OBSTETRICAL INJURY

P. L. Rosenblatt, S. Dessie, A. Adelowo *Ob/Gyn, Mount Auburn Hospital, Cambridge, MA.*

Objective: To describe an approach for layered closure of a cloacal deformity with anal sphincter disruption and loss of perineal body after an obstetrical injury.

Description: This video presents the surgical technique used for the repair of a cloacal deformity with complete disruption and loss of perineal body and anal sphincter in a 69 year old female with history of severe obstetrical injury and fecal incontinence. After a half-strength betadine enema was performed, the patient was prepped and draped. A tagged gauze sponge soaked in half-strength betadine was placed in the rectum. After local anesthetic injection of the perineal remnant and the posterior vaginal epithelium, a 4cm incision was made with the scalpel between the edges of the hymenal remnant. Dissection of the posterior vaginal epithelium away from the rectum was performed with gloved finger in the rectum as a guide. The vaginal epithelium was mobilized both proximally and laterally. The retracted external anal sphincter complex was isolated, mobilized and pulled medially. The distal rectal mucosa was re-approximated. An end to end sphincteroplasty was completed given the limitation of achieving an overlapping approach due to a greater than 120 degree loss of the anterior sphincter. Interrupted absorbable sutures were placed in the insertions of the bulbocavernosus muscles to reconstruct the perineal body. The posterior vaginal epithelium and the perineal skin were closed with absorbable suture. Rectal examination confirmed circumferential sphincter complex and no evidence of rectal injury.

Conclusion: In this video, we demonstrate a transvaginal layered closure of cloacal deformity anal sphincteroplasty and perineal reconstruction after a severe obstetrical injury. The patient was seen 6 weeks post operatively and reported complete resolution of her fecal incontinence. Exam at that time demonstrated a perineal body measuring 3cm.

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Peter L. Rosenblatt: Consultant, intellectual property rights consultant, speaker, independent contractor, research funds

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Videofest 09
ROBOTIC RESECTION OF RECTOVAGINAL ENDOMETRIOSIS

T. Jackson, A.P Advincula *Florida Hospital Celebration, Celebration, FL;.*

Objective: The objective of this video is to demonstrate a technique for robot-assisted laparoscopic partial vaginectomy for resection of a rectovaginal nodule.

Description: We present a case of a thirty year old gravida zero with pelvic pain and dyspareunia, with a two centimeter nodule of vaginal endometriosis which penetrates the rectovaginal septum. This video highlights robotic resection of the rectovaginal nodule of endometriosis. The total operating time including an ovarian cystectomy was approximately two hours. The estimated blood loss was 75cc.There were no complications and the patient did not experience significant shortening of the vagina. Final pathology revealed endometriosis.

Conclusion: Robot-assisted laparoscopy can be used for excision of deeply infiltrating endometriosis.

SPEAKER DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Tiffany Jackson: Consultant
Arnold Advincula: Fee/Royalty - Consultant/Inventor

Videofest 10
LESS TLH/BSO

E. Greenberg *ObGyn, Baystate Medical Center, Springfield, MA;.*

Objective: This video is designed to be a teaching tool for Laproendoscopic Single Site Hysterectomy. It briefly reviews the history and steps of LESS TLH/BSO and then demonstrates the procedure.

Description: LESS has become the next step in the evolution of minimally invasive gynecologic surgery. In 1969 Wheeless first reported on the use of a single incision laparoscopic procedure for female sterilization. In 1991 Pelosi then performed the first single incision TLH/BSO through the umbilicus. In 2008 Laproendoscopic Single Site Surgery became the accepted term and reports began showing up in the literature. It is more cosmetically appealing and may have some advantages over traditional hysterectomies in the appropriate setting. Performing a hysterectomy through the umbilicus requires a shift in the way we manage laparoscopic instruments from a traditional triangulated approach to an inline approach. This involves a learning curve which we break down into three individual segments. Our goal in this video is to review the history of minimally invasive single site surgery and the steps involved in performing a LESS TLH/BSO in a didactic manner. We then demonstrate the procedure using a split screen to show the coordination of the instruments.

Conclusion: Minimally invasive surgery is not a technique as much as a philosophy. It provides the patient with least invasive approach to a particular surgery while achieving the best results with the shortest recovery. We feel that Laproendoscopic Single Site surgery is a useful tool in this setting.

SPEAKER DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Elliot Greenberg: Honorarium - Speaker; Proctor

Videofest 11
SIMULATION MODEL FOR VAGINAL HYSTERECTOMY

H. Memon, T. Fashokun *Urogynecology, Johns Hopkins University, School Of Medicine , Baltimore, MD;.*K. Altman *Obstetrics and Gynecology, Johns Hopkins University, School Of Medicine, Baltimore , MD;.*

Objective: The purpose of this video is to demonstrate a simulation model for teaching pertinent anatomy and surgical skills needed to perform a vaginal hysterectomy.

Description: The materials used to assemble this inexpensive model included reusable items such as a pelvis made of a flower pot, and non-reusable items including a pool noodle, elastic fabric, elastic bands and acryl yarn. The total time spent to make one model from non-reusable material is less than an hour and the total cost per model is approximately $ 15.

A step-wise approach to a vaginal hysterectomy is demonstrated, including techniques for entry into the anterior and posterior cul-de-sac, application of clamps and tying of pedicles. This model allows the learner to appreciate the details of the anatomy. In addition, it provides an opportunity to the instructor to give immediate feedback as peritoneal entry and positions of the can be visualized abdominally by the learner. The model can be modified to change the complexity of the surgical procedure.

Conclusion: Our simulation model can serve as a valuable tool for learning and teaching vaginal hysterectomy. We are currently in the process of validating this model.

SPEAKER DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

The authors report no disclosures.

Videofest 12
OR FITNESS: A DYNAMIC WARM-UP AND STRETCHING ROUTINE FOR SURGEONS

S. Dessie, P.L. Rosenblatt *Ob/Gyn, Mount Auburn Hospital, Cambridge, MA;.*J. McKinney *Physical Therapy , Marathon Physical Therapy, Newton, MA;.*

Objective: To demonstrate a series of dynamic exercises that can be done peri- and intra-operatively to encourage optimal posture and reduce surgery-related pain and discomfort in surgeons.

Description: Based upon optimal surgical ergonomics, dynamic movement principles, and the importance of neutral posture, an exercise routine was developed to counterbalance the awkward and sustained postures and maneuvers commonly observed in surgery and described in the literature. The routine is a collaborative effort between physical therapists and surgeons and intentionally provides exercises that are easily performed during a surgeon's pre- and intra-operative time.

Proper respiration and activation of the "Inner Core" muscles is foundational to all sound static and dynamic postures, therefore this concept is introduced first and reinforced throughout the video. Exercises for the cervical and scapular stabilizers and the rotator cuff are given to counteract forward head posture and support the upper body during prolonged periods of upper extremity activity during surgery. A series of lunges, squats and balancing exercises promotes hip opening and maintenance of neutral pelvic position and neutral spinal curves. Where possible, alternatives of each exercise are shown in order to facilitate their adoption in the surgeon's existing routine. Such alternatives include exercises in the locker room and at the scrub sink.

Conclusion: Our video illustrates simple, dynamic stretches and warm-up exercises for surgeons that can be done prior to, during, and after surgery. These maneuvers can help keep the surgeon healthy by avoiding and counteracting the awkward and sustained postures that can lead to musculoskeletal injury and discomfort.

SPEAKER DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Peter Rosenblatt: Consultant, intellectual property rights consultant, speaker, independent contractor, research funds

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Videofest 13

LAPAROSCOPIC SACRAL COLPOPEXY: DESIGN AND PILOT OF A SIMULATION BASED CURRICULUM

A. Carroll, E. Brock *Virginia Commonwealth University, Richmond, VA;.*

Objective: The objectives of this video are 1) to demonstrate the design of a laparoscopic pelvic training model and 2) demonstrate the steps of a curriculum for laparoscopic sacral colpopexy training and its translation to the operating room.

Description: Laparoscopic sacral colpopexy requires advanced surgical skills including proficient laparoscopic suturing and knot tying. Due to this steep learning curve and lack of sufficient training opportunities this surgical approach to prolapse has not been widely adopted.

This model was created to train a surgeon with moderate laparoscopic skills who is comfortable with robotic assisted sacral colpopexy to perform a laparoscopic sacral colpopexy in a live operative setting. The training first began with laparoscopic suturing and knot tying in a simple box trainer outfitted with readily available materials. The next phase of training occurred in a model designed with actual pelvic dimensions to imitate the ergonomics of suturing in the pelvis. The vagina was created from a mold and permits a uterine manipulator. The sacral promontory was created out of the fabric of self adhesive Velcro. A simulated posterior peritoneum was created from plastic sheeting to allow for sacral promontory dissection.

After 5 one hour training sessions, the surgeon was able to successfully complete a laparoscopic sacral colpopexy in a live operative setting without complications and with operative times similar to those of the robotic approach.

Conclusion: This surgical training model provides a reusable and inexpensive model to adequately prepare a surgeon for a live operative experience in laparoscopic sacral colpopexy.

SPEAKER DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

The authors report no disclosures.

Videofest 14

ROBOT-ASSISTED VAGINAL VAULT SUSPENSION WITHOUT MESH AT THE TIME OF HYSTERECTOMY

H.D. Brazell, P. Tulikangas *Hartford Hospital, Hartford, CT;.*

Objective: The objective of this video is to demonstrate our technique of robot-assisted uterosacral vaginal vault suspension for women with apical prolapse as well to educate general gynecologists in the use of this technique for women in whom hysterectomy is performed for non-prolapse indications.

Description: Uterosacral vaginal vault suspension is a commonly performed operation for the management of apical prolapse and is typically performed vaginally. In general, when a hysterectomy is performed vaginally for non-prolapse indications, gynecologists perform a McCall culdoplasty as prophylaxis for future vault prolapse. However, as the number of robotic hysterectomies in the United States is increasing, we demonstrate a robotic procedure for vaginal vault support after hysterectomy for non-prolapse indications. Apical support is achieved by suturing the full-thickness of the vaginal cuff to the mid-uterosacral ligament on either side.

Conclusion: In conclusion, uterosacral vaginal vault suspension not only offers excellent pelvic support for patients with apical prolapse, but should also be considered as a prophylactic measure for vaginal vault suspension in cases of laparoscopic or robotic hysterectomy for non-prolapse indications.

SPEAKER DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

The authors report no disclosures.

Videofest 15

TRANSRECTAL ENDOSCOPIC SURGERY FOR REMOVAL OF RETAINED MESH FOLLOWING RECTOCELE REPAIR WITH MESH

R. Posthuma, P. Sylla, A. Fiedler, M. Wakamatsu, S.J. Pulliam, M. Weinstein *Female Pelvic Reconstructive Surgery and Urogynecology, Massachusetts General Hospital, Boston, MA;.*

Objective: To describe transrectal endoscopic surgery to remove retained mesh arm in patient with intractable pain after a posterior vaginal wall prolapse repair with mesh kit.

Description: Pelvic pain is a known complication after vaginal mesh augmented prolapse repair. Some posterior vaginal mesh repair kits use arms that traverse the ischiorectal fossa close to the anorectum, making transvaginal removal challenging and sometimes unsuccessful. We present a case of transanal endoscopic surgery (TES) to remove an encapsulated mesh arm scarred near the rectum. The patient is a 72-year-old female with recurrent pelvic organ prolapse (POP) who underwent a posterior repair using a polypropylene mesh kit; postoperatively she developed severe pelvic pain. Initially the mesh body and left arm were resected transvaginally but the right mesh arm was unable to be resected as it was tightly adherent to the rectal wall. The patient continued to have intractable pelvic pain, and thus was referred for TES extraction of the retained mesh arm. A transrectal endoscopic platform was placed into the rectum and the rectum was insufflated with CO2 gas. The mesh was palpated and its location marked. Using endoscopic instruments, a proctotomy was made over the adherent mesh incising full thickness rectal wall. The fibrotic capsule surrounding the mesh arm was dissected off the perirectal tissue and the proctotomy was closed endoscopically. The retained right posterior mesh arm was completely excised using TES. Three months postoperatively, the patient reported significant improvement in her pelvic pain.

Conclusion: Transrectal endoscopic removal of retained vaginal mesh can be achieved safely using TES. TES may serve as a useful adjunct to remove retained mesh in POP patients with mesh complications, especially those who failed a primary transvaginal approach.

SPEAKER DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Patricia Sylla: Honorarium - Teaching, Consultant

Videofest 16

A CASE OF PROCIDENTIA TREATED BY ROBOTIC ASSISTED TOTAL HYSTERECTOMY AND SACROCOLPOPEXY

E.L. Gurshumov, C. Lewis, C. Salamon, P. Culligan *Urogynecology , Atlantic Health System, Morristown, NJ;.*

Objective: To illustrate technique of robotic assisted repair of large procidentia.

Description: 73 yo patient presented with stage IV pelvic organ prolapse. Patient was offered colpocleisis or vagina repair, which she refused. Decision made to proceed with robotic assisted laparoscopic total hysterectomy and sacrocolpopexy. Our goal is highlight specific pearls for performing robotic assisted sacrocolpopexy in a patient with large procidentia

Conclusion: Described technique allowed to perform repair with excellent results, minimal morbidity and fast post operative recovery.

SPEAKER DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Patrick Culligan: Honorarium - research support, consultant
Charbel Salamon: Honorarium - consultant/proctor

Videofest 17
ROBOTIC ASSISTED LAPAROSCOPIC TREATMENT OF PROLAPSE FOR PATIENT WITH PELVIC KIDNEY

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Objective: Our goal is to present surgical management of advanced apical prolapse in a 32 years old woman with a pelvic kidney desiring robotic repair.

Description: Renal ectopy is a congenital anomaly found in 1:500 to 1:5000. The most common form of renal ectopia is the presence of a pelvic kidney.

The patient desired definitive therapy with cervical conservation and was counseled on various surgical approaches including transvaginal or transabdominal.

In this video, we present a case of a pelvic kidney during a robotic assisted supracervical hysterectomy and uterosacral ligament suspension for apical prolapse and the resultant management strategies undertaken intraoperatively.

Conclusion: Although a relatively rare finding, renal ectopy is a potential complicating factor for the gynecological surgeon and requires recognition of the abnormality and understanding of the altered anatomy that it can give to the pelvis.

It will generally not interfere in the process of routine gynecological surgery but for the practicing urogynecologist, the presence of a pelvic kidney requires identification of the abnormal anatomy and knowledge of different methods for management of apical prolapse.

SPEAKER DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

Patrick Culligan: Research support, Honorarium - Consultant
Charbel Salamon: Honorarium - consultant/proctor

Videofest 18
RETROPERITONEAL ANATOMY AND RETRORECTAL DISSECTION OF A TAIL GUT CYST

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Objective: To demonstrate a step by step approach of a difficult dissection in the deep retrorectal space of a tail gut cyst and emphasize the boundaries of the pararectal and retrorectal pelvic spaces

Description: In this video we demonstrate a deep dissection in the retrorectal space. The patient is a 26 year old Hispanic female who has been seeking medical care for 8 years secondary to pelvic pain. She has had multiple procedures involving incision and drainage of what was thought to be perirectal abscesses. Her MRI showed multiple multicystic structures highly suspicious for a tail gut cysts. This video demonstrates a step by step approach for deep pelvic dissection from the pararectal space to the presacral space and into the retrorectal space with complete excision of intact tail gut cysts approached with robotic assistance. Knowledge of the retroperitoneal pelvic spaces importance is emphasized in this video. Entering these spaces is especially useful for identifying the ureters, major vessels and nerves and ensures a safe dissection.

Conclusion: With fundamental knowledge of the pelvic retroperitoneal structures and spaces, Pelvic surgeons are able to perform safe, efficient, and effective operations without compromise.

SPEAKER DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

The authors report no disclosures.

Videofest 19
MULLERIAN AGENESIS WITH ACTIVE UTERINE ANLAGER

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Objective: We present a case of mullerian agenesis in a 24 year old patient with recurrent pelvic pain. Preoperative workup is suggestive of an active uterine remnant. A video is presented illustrating proper laparoscopic technique for resection of such remnants, with demonstration of appropriate retroperitoneal dissection and anatomy.

Description: A demonstration of technique for resection of mullerian remnants in a patient with mullerian agenesis and cyclic pain.

Conclusion: Women with mullerian agenesis may have residual uterine tissue and cyclic pain. These remnants can safely be resected laparoscopically, leading to lasting relief from these symptoms.

SPEAKER DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS:

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