25th Annual
LSU School of Medicine
Department of Obstetrics & Gynecology

Resident Research Day
May 9, 2013

LSU Health Sciences Center
2020 Gravier Street, 6th Floor
New Orleans, LA

Keynote Speaker:
Kenneth J. Moise, Jr., M.D.

Co-Director, Texas Fetal Center
Professor, UTHealth Medical School at Houston
Department of Ob/Gyn & Reproductive Services
Department of Pediatric Surgery

About Our Guest Speaker

Kenneth J. Moise, Jr., M.D.

Dr. Moise is a Professor at UTHealth Houston Medical School in the Department of Obstetrics, Gynecology & Reproductive Sciences and is a co-director in the Texas Fetal Center™. Since his arrival, he has been instrumental in the establishment of a fetal intervention fellowship at UT for which he serves as the director.

He is board certified in general Obstetrics and Gynecology as well as Maternal-Fetal Medicine. Dr. Moise's interest in fetal therapy spans a 25 year period. He is recognized world-wide for his contributions in the fetal treatment of Rh disease. In 2004, he established a fetal intervention program at the University of North Carolina. In 2006, the program was moved to Texas Children's Hospital in Houston, Texas and named the Texas Children's Fetal Center. Dr. Moise has a special interest in the prenatal diagnosis and minimally invasive surgical treatment of fetal disorders. These include fetal anemia secondary to maternal red cell alloimmunization, twin-twin transfusion, discordant fetal anomalies in monochorionic twins and twin reversed arterial perfusion sequence (TRAP). Dr. Moise is also actively involved in the open fetal surgical repair program for myelomeningocele. Prior to his arrival in Houston, he assisted in ten cases of open repair prior to the initiation of the NICHD-funded MOMS trial. Since his arrival in Houston, he has organized a fetal surgical project in a swine model to study the repair of iatrogenic defects in the fetal membranes. He has also participated in ovine and goat fetal surgical projects regarding tracheal occlusion for the treatment of diaphragmatic hernia and cardiac angioplasty for the treatment of critical aortic stenosis.

Dr. Moise is the former Director of Maternal-Fetal Medicine at Baylor College of Medicine and the University of North Carolina School of Medicine. He is the former President of the International Fetal Medicine and Surgery Society and currently serves as the Treasurer/Secretary of that organization. He is a past member of the executive board and the steering committee of the North American Fetal Treatment Network (NAFTNet).

Dr. Moise completed his residency in Obstetrics and Gynecology at Vanderbilt University followed by a fellowship in Maternal-Fetal Medicine at Baylor College of Medicine. He was instrumental in the formation of both the Center for Maternal and Infant Health at the University of North Carolina and the Texas Children's Fetal Center prior to his joining UTHealth and the Texas Fetal Center™ in September, 2011.

Guest Speaker Presentation

"Fetal Intervention for Spina Bifida"

By Kenneth J. Moise, Jr., M.D.

Objectives:

1) Understand the long-term costs and clinical consequences of myelomeningocele (MMC).

2) Understand the rationale for in utero repair of MMC based on animal experiments and early experience in human cases.

3) Understand the risks and benefits of in utero fetal repair of MMC based on the MOMS trial.

4) Be able to make a proper referral to a fetal center for consideration of in utero repair based on established maternal and fetal criteria from the MOMS trial.

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7:30-8:00 **Continental Breakfast**

8:00-8:10 **Welcome & Introduction of Research Day Speaker**

Amy E. Young, MD, Chairman

8:10-8:45 ***"Fetal Intervention for Spina Bifida"***

Kenneth J. Moise, Jr., MD

8:45-9:15 **"*Umbilical Cord Coiling and Maternal Diabetes*" – Amanda Lemoine, MD**

Advisor: Joseph Miller, MD Discussant: Kenneth Moise, MD

9:15-9:45 "***Mesh Exposure Following Pelvic Organ Prolapse Repair with Gynecare Prosima System*" – Nicole Pino Harper, MD**

Advisor: Karen Soules, MD Discussant: Lisa Peacock, MD

9:45-10:15 "***Faculty Assessment of Competency Using QR Reader*"– Jamie Sias, MD**

Advisor: Danny Barnhill, MD Discussant: Robin English, MD

10:15-10:45 **"*Biostatistics Needs Assessment Survey*" – Aishawarya Sarkar, MD**

Advisor: Joseph Hagan, ScD Discussant: Hilary Thompson, MD

10:45-11:00 **Coffee Break**

11:00-11:30 **"*Does Ultrasound Identify Fetal Karyotype Abnormalities?*" – Natasha Goss, MD**

Advisor: Joseph Miller, MD Discussant: Ann Chau, MD

11:30-12:00 **"*Evaluation of Follow-up Protocols of Clinical Breast Findings in the LSU Obstetrics & Gynecology Clinic"* – Christy Hartmann, MD**

Advisor: Stacey Holman, MD Discussant: Valerie Williams, MD

12:00-12:30 **"*Second Trimester Cord Coiling Index and Its Relationship to Small for Gestational Age Fetuses*"– Kira Clement, MD**

Advisor: Joseph Miller, MD Discussant: Asha Heard, MD

12:30-1:00 **"*The Relationship between Umbilical Cord Diameter of Free Floating Cord Segments Compared to Relative Fetal Birth Weight*"– Tara Morse, DO**

Advisor: Joseph Miller, MD Discussant: Robert Maupin, MD

1:00-1:45 **Lunch and Photo Session**

1:45-2:30 **Research Poster Presentations**

2:30-3:00 **Research Award Announcements and Final Remarks**

Umbilical Cord Coiling and Maternal Diabetes

Amanda Lemoine MD, Joseph Hagan ScD, Joseph Miller MD
Louisiana State University Health Sciences Center – New Orleans
Department of Obstetrics and Gynecology

Objective: Umbilical cord coiling is established in early gestation, usually stabilizing by 22 weeks of gestation. Abnormal coiling may have chronic (growth restriction) and acute (fetal intolerance to labor) effects on the fetus. Causes of abnormal coiling of the umbilical cord are not yet understood. Ultrasound can be used to detect abnormal coiling in the antenatal period with utilization of the coiling length, which is calculated by measuring the distance between two pairs of coils on a longitudinal section of the cord via ultrasound. Coiling index is the reciprocal of coil length. Studies suggest that infants born to mothers with either preexisting diabetes mellitus or gestational diabetes may have abnormal coiling, evident as either hypocoiling and hypercoiling. In our study we set out to compare umbilical cord coil lengths of fetuses of mothers with and without diabetes

Methods: A retrospective cohort study was performed including patients with a pregnancy between 20 weeks gestational age and 31 6/7 week gestational age seen in the LSU Perinatology Network from 2006-2011.The study group included patients with either preexisting diabetes mellitus or gestational diabetes and patients with no diabetes diagnosis.

Results: A total of 759 coil lengths were measured. The coiling indices were calculated and were found to have a right skewed distribution. There was not a significant difference in the coiling indices of diabetic vs. non-diabetic mothers ($p = 0.450$). However, there was a significant difference in ethnicities' coiling indices ($p < 0.001$). A direct comparison of the coiling indices of African Americans vs. Caucasians revealed that the coiling index of African Americans was significantly longer than the coiling index of Caucasians ($p < 0.001$). This association was still present ($p<0.001$) after adjusting for estimated gestational age, birth weight, gender of the fetus and the mother's diabetes and hypertension status. Also after adjusting for estimated gestational age, an association between umbilical cord coiling index and birth weight was noted ($p = 0.002$).

Conclusion: No significant association was found between umbilical cord coiling index and maternal diabetes. However, we did identify differences in the umbilical cord coiling indices of African Americans and Caucasians. Also, a correlation between umbilical cord coiling index and birth weight was also found.

Mesh Exposure Following Pelvic Organ Prolapse Repair with Gynecare Prosima System

Nicole Pino Harper MD, Karen Soules MD, Ralph Chesson MD, Joseph Hagan ScD
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Department of Obstetrics and Gynecology

Objectve: To compare the incidence of mesh exposure with the Gynecare Prosima System to the current reported incidence. To identify risk factors for mesh exposure.

Methods: Retrospective chart review of patients who received the Gynecare Prosima System from June 2010 to March 2013. Data obtained from electronic medical records and resident case logs at University Medical Center in Lafayette, LA.

Results: Thirty-six patients were included in the study. The mean age was 57.2±8 years. Mean vaginal parity was 3.1±1.2 deliveries. Average intraoperative blood loss was 76.6±79.7 cc. The average patient was obese with BMI of 31.8±4.9. 36.1% patients used tobacco. 10 of the 36 patients (27.8%) had mesh exposure with a 95% CI of 14.8% – 45.4%, which was significantly higher (p=0.001) than the 10% incidence reported in literature. 4 of the 10 patients (40%) with mesh exposure required more than one procedure for revision. Women using tobacco (p=0.018) had significantly higher odds of mesh exposure. Patients with mesh exposure had a significantly lower BMI (p=0.014) and tended to have less intraoperative blood loss, although this difference did not achieve statistical significance (p=0.087).

Conclusion: In this study, the Gynecare Prosima system had a significantly higher incidence of mesh exposure than documented in the literature. Tobacco use was a risk factor for mesh exposure. Patients with mesh exposure had a lower BMI. Postmenopausal women and women on HRT had higher odds of exposure, but the clinical implications of this association are not clear. There was not an association between mesh exposure and age, location of the primary procedure, concurrent TVT placement or genital urinary tract injury. Co-morbid conditions including diabetes and hypertension, although prevalent, were not significantly associated with mesh exposure.

Faculty Assessment of Competency Using QR Reader

Jamie M. Sias MD, Danny Barnhill MD, Kellin Reynolds MD, Amy Young MD,
Florencia Greer Polite MD, Joseph Hagan ScD
Louisiana State University Health Sciences Center – New Orleans
Department of Obstetrics and Gynecology

Objective: To introduce a portable electronic evaluation for verbal and written feedback from the faculty member to the Ob-Gyn resident immediately following technical procedures.

Methods: A 2-D QR code (TAG) was designed for each resident and faculty using Microsoft QR code generator and attached to his or her institutional ID badge. A streamlined evaluation based on the CREOG Task Force Focused Assessment of Competency was linked to a file unique to each resident using Survey Monkey. After each procedure, the faculty scanned the resident's TAG with a smart phone, and the resident's evaluation appeared on the screen. The faculty completed a brief evaluation and immediately reviewed the evaluation with the resident. After completing the face-to-face encounter, the electronic evaluation was automatically submitted to the resident's educational file. After the feedback between the faculty and resident, the resident scanned the faculty's TAG and anonymously answered 5 yes or no questions about the faculty's participation during the procedure. After completing this encounter, the questionnaire was closed and submitted electronically to the faculty member's file. Each month, residents and faculty received a summary print out of their assessments for review. A satisfaction survey was issued 8 weeks after implementing the TAG evaluation system.

Results: The residents and faculty quickly accepted this evaluation system. There was 81% utilization of the TAG system. Of participating residents and faculty, 75% responded to the survey. 79% indicated this evaluation tool was better than the previous paper evaluations, 83% stated it provided educational benefit, and 86% saw value in continuing this form of resident evaluation. Overall, 86% were satisfied or very satisfied with this format. The Survey Monkey portion was completed quickly, in less than one minute (41%) and less than 2 minutes (76%).

Conclusions: The portability of the QR reader combined with a streamlined electronic evaluation encourages direct, formative feedback at the time of procedure and can provide an electronic record for longitudinal comparison of resident progress. The TAG system is easy and convenient with a high level of satisfaction among users. The immediate assessment allows for efficient assimilation of surgical technique compared to previously used handwritten evaluation forms.

Biostatistics Needs Assessment Survey

Aishawarya Sarkar MD MPH, Joseph Hagan ScD, Joseph Miller MD
Louisiana State University Health Sciences Center – New Orleans
Department of Obstetrics and Gynecology

Objective: Assess understanding of biostatistics and interpretation of research results among LSU residents.

Methods: A questionnaire was distributed to LSU residents in Obstetrics and Gynecology, Emergency Medicine and Internal Medicine, consisting of 20 knowledge-based biostatistics questions. Topics covered included Level of Data Measurement, Interpreting Descriptive Statistics, Study Design, Hypothesis Testing, Diagnostic Tests, Interpreting Odds Ratios, and Identification of Appropriate Statistical Methods.

Results: A total of 33 study participants across the three specialties volunteered answers to the questionnaire, with a mean percentage correct of 38.6% (range: 10% to 70%). The highest mean percentage correct was in the concept of Study Designs (mean: 53%, range 0% to 100%). The lowest percentage correct was in the concept of Interpreting Descriptive Statistics (mean: 23%, range 0% to 100%).

Conclusion: Given the low percentage mean correct across all concepts, the results of the study lead to the conclusion that all residents lack the basic knowledge in biostatistics to correctly interpret and analyze published clinical research. Identifying the specific areas of weakness within the field of biostatistics knowledge can allow for implementation of focused didactic curriculum to improve critical analysis and clinical decision-making.

Does Ultrasound Identify Fetal Karyotype Abnormalities?

Natasha Goss MD, Joseph Miller MD, Robert Maupin MD, Joseph Hagan ScD
Louisiana State University Health Sciences Center – New Orleans
Department of Obstetrics and Gynecology

Objective: Determine if abnormal ultrasound findings are clinically significant in identifying patients with abnormal fetal karyotypes.

Methods: A retrospective chart review of 302 patients from June 30, 2005 through July 18, 2011 at Touro Infirmary Perinatology department was performed. Chart information including indication for amniocentesis, maternal age, abnormal quad lab results, anatomy scan results, gestational age at amniocentesis, and amniocentesis karyotype results were extracted. Specifically the relationship of abnormal ultrasound findings and abnormal amniocentesis karyotype results were reviewed to determine if ultrasound findings identified patient's with abnormal fetal karyotypes.

Results: A total of 302 charts were reviewed with the indication for amniocentesis either being a single factor or combination of advanced maternal age, prior family history, abnormal quad results, and abnormal ultrasound findings. Of the 302 charts, 21.5% or 65 amniocenteses were performed secondary to abnormal ultrasound findings. However, an anatomy ultrasound was performed during all of the amniocenteses for other indications and an additional 24 patients were identified as having abnormal ultrasound findings. This increased the total of all abnormal ultrasounds to 29.5% or 89 charts. Overall 281 or 93% of amniocenteses were normal while 21 or 7% were abnormal. When comparing the diagnostic accuracy of abnormal ultrasounds, 15 of the 89 abnormal ultrasound subjects had abnormal fetal karyotypes while 6 of the abnormal fetal karyotypes had normal ultrasounds. Therefore, abnormal ultrasound findings have a 71.4% sensitivity of identifying abnormal fetal karyotypes with a 73.7% specificity, 16.9% positive predictive value, and 97.2% negative predictive value. When looking at all indications for amniocentesis, abnormal ultrasound findings were significantly more likely ($p<0.001$) to have abnormal amniocentesis results than subjects with other indications.

Conclusion: Overall, abnormal ultrasound findings were clinically more significant than other clinical indicators for identifying subjects with abnormal fetal karyotypes. The negative predictive value is also reassuring at 97.2%. These findings are important in counseling our patient population in deciding to undergo an invasive procedure such as amniocentesis versus a noninvasive procedure such as fetal ultrasound with the use of cell free fetal DNA. The new utility of cell free fetal DNA could decrease the risk associated with amniocenteses by triaging the patients without abnormal ultrasound findings to receiving cell free fetal DNA testing.

Evaluation of Follow-up Protocols of Clinical Breast Findings in the LSU Obstetrics & Gynecology Clinic

Christy Hartmann, MD, Erika Bisgaard, BS, Joseph Hagan, ScD, Stacey Holman, MD
Louisiana State University Health Sciences Center – New Orleans
Department of Obstetrics and Gynecology

Objective: To evaluate the effectiveness of current follow-up protocols of clinical breast findings in the LSU OB/GYN clinic.

Methods: This study was a retrospective cohort study of 110 patients reported to have clinical breast findings in the LSU Obstetrics and Gynecology clinic in New Orleans, Louisiana. Patients eligible for the study were identified by selected ICD-9 codes that corresponded with abnormal findings during clinical breast examination between January 2011 and September 2012. Medical records were reviewed to identify the date of initial abnormal breast finding, the date that follow-up was performed, and what type of follow up was done. Patients were followed for a minimum of 6 months from initial presentation.

Results: A total of 110 patients were selected using ICD-9 codes and 78 met inclusion criteria for the study. These 78 patients were followed for a minimum of 6 months after initial diagnosis. Some form of provider follow-up, either in the LSU OB/GYN clinic, Breast clinic, or Surgery clinic, was documented in 69.23% of patients, and no form of provider follow-up was documented in 30.77%. Some form of imaging, either ultrasound, diagnostic mammography, or screening mammography, was documented in 75.64%, and no imaging was documented for 24.36%. Combining this data we found that 11.54% of patients had no provider follow-up or imaging performed. Additionally, 20.51% of patients had imaging done without any form of provider follow-up documented. Of the patients diagnosed with clinical breast findings, some were followed at other clinics. However, in 44.87% of patients, there was no documented follow-up visit in the LSU OB/GYN clinic at any time after diagnosis of a clinical breast finding. The mean interval from presentation to imaging study was 37.1 days. The mean interval from presentation to clinical follow-up was 43.2 days.

Conclusions: The current state of follow-up of breast findings in the LSU OB/GYN clinic is not standardized. Regardless of reason, many patients are incompletely worked up after diagnosis and many are lost to follow-up. The findings presented here suggest a need for a protocol that will improve upon our current system of patient care.

Second Trimester Cord Coiling Index and Its Relationship to Small for Gestational Age Fetuses

Kira Clement MD, Joseph Hagan ScD, Joseph Miller MD
Louisiana State University Health Sciences Center – New Orleans
Department of Obstetrics and Gynecology

Objective: To evaluate the relationship between second trimester umbilical cord coiling index and small for gestational age fetuses.

Methods: A retrospective review of the database of ultrasound recordings of over 1500 coiling lengths taken between 18 and 22 completed weeks from 2006 and 2011 in the LSU MFM network was performed. Only those babies whose birth outcomes were available were used. Only one measurement was taken within the above time frame and only non-anomalous singleton pregnancies with a 3 vessel cord were used. The measurements were taken in a mid segment of the cord during ultrasounds done by a single MFM physician. Cords were included if their coiling length was visualized during a routine ultrasound. The linear distance of one coil revolution was measured by ultrasound and the coiling index was determined from 1/coil length (cm). Normal and abnormal values were determined using a prior published study. With these criteria we were able to create a database to explore the relationship between coiling index and small for gestational age fetuses using t-test, Wilcoxon rank test, and odds ratio calculations. We also used the database to create a multiple regression analysis to determine what other factors may be associated with coiling index.

Results: A total of 1032 patients qualified for inclusion. No relationship between coiling index and SGA fetuses could be found. Multiple regression analysis was done. A relationship between coiling index and ethnicity ($p<0.0001$), gestational age at time of ultrasound ($p<0.0001$), and birth weight was noted ($p<0.0262$).

Conclusion: Although results from prior studies indicate a relationship between cord coiling and SGA, our series did not find such a relationship. However, when adjusting for multiple factors, a relationship between cord coiling and birth weight was identified but we would need to further study this relationship to understand how it will be helpful in evaluating fetal growth.

The Relationship between Umbilical Cord Diameter of Free Floating Cord Segments Compared to Relative Fetal Birth Weight

Tara Morse DO, Joseph Hagan ScD, Vanessa Cloutier BS, Joseph Miller MD
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Department of Obstetrics and Gynecology

Objective: Our study evaluated the association between umbilical cord diameter and relative birth weight by determining whether there is a linear relationship between free floating cord diameter measured between 28 0/7-33 6/7 weeks gestational age and relative fetal birth weight.

Methods: The average of the two cord cross diameters represented the mean diameter. Nonparametric tests were used for statistical analyses since cord diameter, days at delivery, gestational week and weight (grams) were all found not to be normally distributed. Spearman's Correlation Coefficient was used to assess bivariate associations between continuous variables. The Wilcoxon rank sum test was used to compare the diameter, days at delivery, gestational week and weight (grams) of diabetic and non-diabetic subjects. Similarly, the Wilcoxon rank sum test was used to compare the diameter males vs. females while the Kruskal-Wallis test was used to compare ethnicities' cord diameters. Logistic regression was performed to determine which independent variables were associated with diabetes status after adjusting for the other variables in the regression model. ROC curve analysis was used to investigate the utility of cord diameter in predicting diabetes status.

Results: A total of 330 subjects were included in the analytic dataset. Cord diameter was not associated with gestational age at study ($r = 0.095$ and $p=.08$); this confirms what previous studies of cord diameter have shown that throughout pregnancy the growth curve is relatively flat. Cord diameter did exhibit a statistically significant positive correlation with birth weight ($r = 0.148$, $p = 0.007$) and relative birth weight ($r = 0.178$, $p = 0.001$). Also, diabetics had a significantly larger cord diameter ($p = 0.002$) and fewer days at the time of delivery ($p < 0.001$). There was not a significant difference in the birth weights for diabetics vs. non-diabetics ($p = 0.205$). In a multivariable analysis, larger cord diameters and relative birth weights were significantly associated with a maternal diabetes diagnosis. For every centimeter increase in cord diameter, the odds of diabetes increased by a factor of 5.0 after adjusting for the other variables in the model.

Conclusion: This study supports our suspicion based on clinical observation that the umbilical cord diameter of diabetic patients is generally larger compared to non-diabetics.

2013 Poster Presentations

Megan Bina DO, Danny Barnhill MD, Jonathan Finney, Amy Young MD, Donna Williams PhD, Michael Hagensee MD, Joseph Hagan ScD
"Survey of Louisianan OB/GYN Opinion on Home Cervical Cancer Screening"

Ashley Hirsch MD, Stacey Holman MD, Joseph Hagan ScD, Lisa Peacock MD
"Factors Associated with Insufficient Endometrial Biopsy Results"

Felton Winfield MD, Jessica Jones MD
"Abdominal Shake Test"

Florencia Polite MD, Ilsa Leon MD, Joseph Hagan ScD, Laura Shoemaker BS
"Impact of Novel Initiative on CREOG Outcomes"

Adriana Luciano Del-Valle MD, Valerie Williams MD, Joseph Hagan ScD
"The Effect of Musical Instrument Experience on Laparoscopic Skills"

Jennifer Mury MD, Jaime Alleyn MD, Joseph Hagan ScD
"Medical Student Education in the OB/GYN Clerkship: Increasing Student Knowledge, Satisfactions, and Interest in Obstetrics and Gynecology"

Kellin Reynolds MD, Danny Barnhill MD, Jamie Sias MD, Joseph Hagan ScD, Florencia Polite MD, Amy Young MD
"Tracking Resident Surgical Competency: Paper Verses Electronic"

Survey of Louisianian OB/GYN Opinion on Home Cervical Cancer Screening

Megan Bina DO, Danny Barnhill MD, Jonathan Finney, Amy Young MD, Donna Williams PhD, Michael Hagensee MD, Joseph Hagan ScD
LSU Health Sciences Center - New Orleans

Department of Obstetrics and Gynecology

There is extensive evidence that testing the lower genital tract for the presence of high risk Human Papillomavirus (HPV) is a more predictive screening test for cervical cancer than the Pap smear which has been the technology used for this purpose for the past 75 years. The HPV status of a woman's lower genital tract can be determined by swabbing the vagina/cervix with a cotton-tipped applicator or by placing a tampon in the vagina, washing the cells from the cotton-tipped applicator or the tampon, and analyzing those cells for the presence of high risk HPV. This screening can be done by the patient, at home, by swabbing her own vagina or placing a tampon in the vagina for a short time, then mailing the swab or tampon in an approved mailing container to the lab where it can be analyzed. Women positive for high risk HPV would be instructed by mail to make a Gyn appointment for further evaluation. This is similar to the format mammogram units now use for abnormal mammograms. It has been postulated that such a convenient testing method may result in a much higher percentage of screened women.

Hypothesis:

Louisiana Obstetrician-Gynecologists will not favor home testing over office evaluation by a healthcare provider.

The purpose of this study is to determine the opinion of Louisiana Obstetrician-Gynecologists concerning the institution of wide scale home testing for cervical cancer. A data base containing names and addresses of 796 Louisiana Ob-Gyns was created from listings in telephone directories, internet sites, professional organizations, hospital roles, academic programs, and residency lists. A brief survey was sent by U.S. mail to all identifiable currently active Louisiana Ob-Gyns, including residents in training. The surveys were returned by an enclosed stamped self-addressed envelope.

Results: 796 surveys sent out, 235 surveys received

		Home cervical cancer screening effect on number of clinic visits		
	Percent of respondants	Increase	Decrease	No change
Females	54%	22%*	48%	30%*
Males	46%	10%	68%	22%
Overall		14%	53%	27%

		If your spouse, female relative, female partner had no GYN issues, would you recommend home screening for cervical cancer?	
		Yes	No
Females	96%	47%	53%
Males	95%	40%	60%
Overall		44%	56%

	Female practitioners: if you had no gynecologic issues, would you consider home screening for yourself?	
	Yes	No
Females	52%	48%

Conclusions:

Currently, a small majority (53%) of Louisiana Obstetrician-Gynecologists believe a system of home screening for cervical cancer would decrease the number of office visits in their practice. A majority **(56%)** also would not recommend home screening for cervical cancer to their spouse, female partner, or female relatives. Of the female Ob-Gyns, **52%** would consider home screening for themselves, and **48%** would not consider it.

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Factors Associated with Insufficient Endometrial Biopsy Results

Ashley Hirsch MD, Stacey Holman MD, Joseph Hagan ScD, Lisa Peacock MD
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Department of Obstetrics and Gynecology

Literature Review/Justification

Abnormal uterine bleeding is one of the most common complaints encountered by an OBGYN in office practice. It accounts for 1/3 of outpatient visits and for more than 70% of all gynecologic consults in perimenopausal and postmenopausal patients. Abnormal uterine bleeding (AUB) may result from many etiologies, the likelihood of each changing throughout a woman's lifetime. Etiologies are divided into two main categories, structural and non-structural causes. Structural causes include polyps, adenomyosis, leiomyomas, and malignancy. Nonstructural causes include coagulopathy, ovulatory dysfunction, endometrial, and iatrogenic. The most worrisome of these etiologies is uterine carcinoma. Uterine cancer is the fourth most common cancer in women in the US and most common gynecologic cancer in the US. In 2009, 44,192 women in the US were diagnosed with uterine cancer and 7,713 women died from uterine cancer, most commonly endometrial cancer. Risk factors for endometrial cancer include age greater than 50, obesity, hypertension, a history of unopposed estrogen, Tamoxifen use, nulliparity, chronic anovulation, and diabetes mellitus.

Many tools in addition to a thorough history and physical examination can be used to assess the uterine cavity for a source of abnormal uterine bleeding. Common modalities for assessing abnormal uterine bleeding include laboratory studies, endometrial tissue sampling, transvaginal or transabdominal ultrasound, magnetic resonance imaging, saline infused sonohysterography, and hysteroscopy. For women age 45 and greater, the gold standard test is endometrial biopsy (EMB). EMB has also proven useful in women less than 45 years of age with a history of unopposed estrogen exposure, and persistent abnormal uterine bleeding refractory to medical management.

Transvaginal ultrasound has been studied as a less invasive alternative to assess AUB. Studies have shown that an endometrial thickness of less than 4-5mm in patients with postmenopausal bleeding malignancy may reasonably be excluded. Transvaginal ultrasonography is also used to guide further management when tissue sampling of the endometrium is insufficient in patients with postmenopausal bleeding.

Despite the fact that endometrial tissue sampling is the gold standard test for assessing abnormal uterine bleeding in women greater than 45, endometrial biopsies with findings insufficient for diagnosis are a common event. Many factors may contribute to this occurrence. This study will evaluate patient factors such as race, parity, BMI and co-morbidities as well as ultrasonographic findings in association with insufficient endometrial tissue sampling. If risk factors for insufficient EMB can be identified, it will aid in directing management of these patients to ensure a more effective evaluation.

Hypothesis

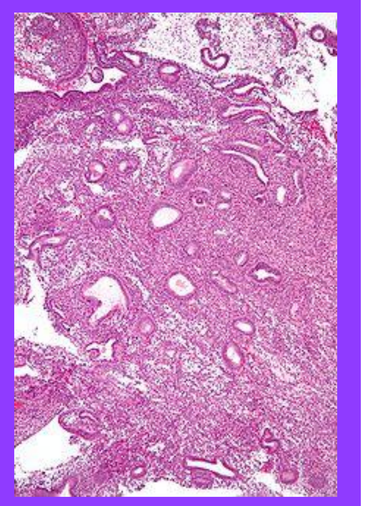
There is an association between insufficient endometrial biopsy results and patient factors including BMI, co-morbid conditions and endometrial thickness as documented by transvaginal ultrasonography.

Materials and Methods

This study is a retrospective chart review of endometrial biopsies performed by residents in the LSU OBGYN Clinic in New Orleans, LA between April 1, 2011 and December 31, 2012. The *Pipelle Endometrial Suction Curette* was used to perform the endometrial tissue sampling. A comparison of insufficient endometrial biopsies with transvaginal ultrasound findings as well as other patient factors including age, BMI, menopausal status, co-morbid conditions.

Expected Results

It is anticipated that in our study we will find an association between endometrial biopsy results reported as insufficient and patient factors including obesity, parity, co-morbid medical conditions. We also anticipate an association between ultrasonography findings and insufficient endometrial biopsy results.



Endometrial biopsy: simple endometrial hyperplasia

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"Abdominal Shake Test"

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Pelvic adhesions may be describes as bands of scar like tissue that form between two surfaces of the body. They can lead to pelvic pain, impair fertility and cause bowel obstruction while making gynecologic reoperation more difficult. At this time there is no physical exam in the practice which can adequately predict the severity of adhesions. A recent physical exam known as the 'abdominal shake test' has been proposed as a physical exam which can adequately characterize the severity of pelvic adhesions preoperatively. To characterize the severity of adhesions, a grading system developed by Gynecare who makes the adhesion barrier Interceed will be used. By using this grading system the 'abdominal shake test' may be validated and used in the future to adequately schedule patients for the appropriate surgery.

The more severe the grade of pelvic adhesions, the more likely the 'abdominal shake test' will be positive.

The patient will be consented before abdominal surgery for examination under anesthesia. During bimanual examination, the surgeons will perform the abdominal shake test which will consist of placing the dominant hand against the cervix while shaking the abdomen with the other hand. The 'shake test' will be positive if the examiner feels the cervix move while manipulating the abdomen. The examiner will be defined as the primary resident surgeon and the Attending. The procedure will then proceed. During the procedure, the adhesions will be classified as the intra-abdominal survey is performed by both examiners. The adhesions will be scored based on the grading system developed by Gynecare. At the end of the case, the adhesion grade will be recorded and questions answered on location of pelvic adhesions. The answers of both examiners will be kept confidential.

We expect the 'abdominal shake test' to be more positive as the grade of the adhesions increases.

Abdominal Shake Test Survey

Patient name: _____ Date: _____
Examiner: _____ Identifier: _____
Surgery: Laparotomy Laparoscopy
Abdominal shake test: positive negative
Adhesions:
Grade 0: ___ No adhesions
Grade 1: ___ Minimal or filmy adhesions
Grade 2: ___ Moderate/thick adhesions
Grade 3: ___ Absence of free space between the uterus and the anterior abdominal wall/viscera to parietal peritoneum solidarity

Did the abdominal shake test results change the type of surgery performed? Yes No

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Impact of a Novel Initiative on CREOG Outcomes

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Background and Justification for this Study

Each January, OB/GYN residents throughout the country take the Council on Resident Education in Obstetrics and Gynecology (CREOG) exam. Implemented in 1967, this in-training examination's intended purpose was to assist program directors in evaluating residents' cognitive knowledge as well as the effectiveness of individual training programs.[1] According to Spellacy et al. performance of third-year residents correlates well with American Board of Obstetrics and Gynecology (ABOG) written exam performance.[2] An extensive search, however, of PubMED, OVID, ACOG, and the Green Journal confirm our suspicion that although there are articles that discuss resident education,[3-9] there is a sparse amount of published data in regards to evidence based methods that assist OB/GYN residents in improving their scores on this exam. The only study found was from The University of Texas Southwestern Medical Center, in which they showed that the annual difference between their program and the national percent correct increased 2.1% versus 4.8%, *p <.001* after the introduction of a resident created study guide.[10]

Hypothesis

Utilization of a voluntary educational opportunity, Resident Electronic Academic Digest (READ), will improve their CREOG scores in the questions covered by the READ topics.

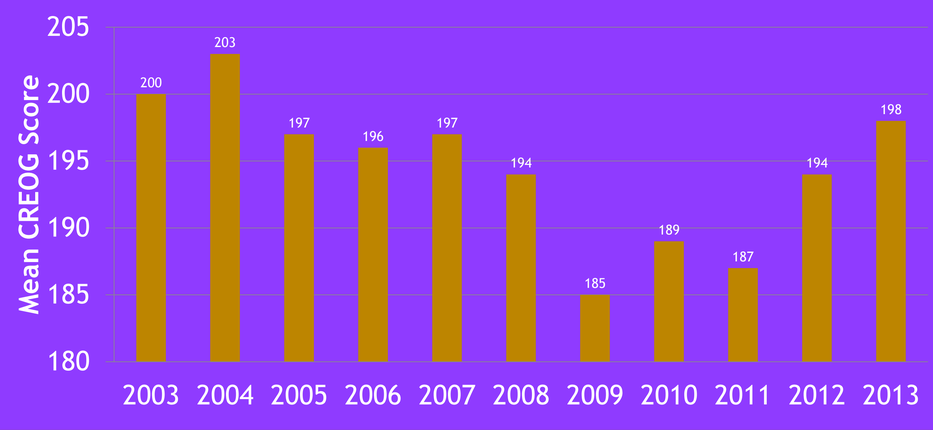
Materials and Methods

Resident Electronic Academic Digest (READ), a voluntary educational opportunity, was implemented in August 2011 within the Louisiana State University OB/GYN residency program. In the beginning of each month, the residents were emailed an article(s) regarding a topic in Obstetrics and/or Gynecology. Topics were chosen from the prior year's LSU OB/GYN Resident Council on Resident Education in Obstetrics and Gynecology (CREOG) examination, in which 75% of LSU residents scored incorrectly. At the beginning of the second week, questions that were written by faculty members were emailed to the residents. Questions included multiple choice, short and long answer questions. Residents who participated were asked to email their answers to the Residency Program Director. During the last week of the month, the residents were emailed the quiz answers. After the completion of the 2013 CREOG examination the residents' names were coded on their CREOG scores, as well as, their quiz answers by the Program Director to ensure that the residents' identities were confidential. In this prospective cohort study, we plan to determine if there is a significant improvement in the topics covered by the READs. A two-sample t-test will be used to determine if there was a significant difference in CREOG scores for residents who did versus those who did not participate in a READ for the corresponding topic. Then, to control for confounding variables besides the READs that might affect CREOG scores, multiple linear regression will be used to compare CREOG scores for residents who did versus did not participate in a READ for the corresponding topic, after adjusting for residents' CREOG scores on topics for which no READ was provided.

Expected Results

It is anticipated that residents who participated in READs will have significantly higher CREOG scores in the corresponding categories compared to residents who did not participate in READs.

LSU OB/GYN Overall CREOG Scores



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The effect of Musical Instrument experience on Laparoscopic Skills

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Literature review

Playing a musical instrument and performing surgery involve many of the same skills and cerebral functions. Hand-eye coordination, depth perception, visuo-spatial abilities and psychomotor abilities play an important role in laparoscopic surgery as well as in music. Studies have shown that musical experience increases visuo-spatial abilities in children. It has been speculated that musicians and surgeons may have some brain specializations in common and music experience may help in surgical skills.

Hypothesis

Having musical experience gives an advantage to novice surgeons in performing laparoscopic skills.

Materials and Methods

A prospective cohort study will be performed which will include third year medical students from LSU medical school. A survey will be given prior which will include questions about musical experience, video game experience and sports experience. Students will be divided into two groups (musical experience vs no musical experience). Each student will be given the same task to perform in the laparoscopic box trainers and will be scored by the time needed to perform the task.

Expected Results

Subjects with musical experience will perform laparoscopic skill faster than subjects who do not have any musical experience.

Tables/graphs

Table 1. Comparison of time to complete laparoscopic task for students who currently do and do not play a musical instrument

Currently Play a Musical Instrument?	N	Mean (SD)Time to Complete Task	p-value
Yes	50	5 min	0.05
No	50	8 min	0.05

** This table does not include any real data. It is an example of how the data would be presented**

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Medical Student Education in the OB/GYN Clerkship: Increasing Student Knowledge, Satisfaction, and Interest in Obstetrics and Gynecology

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The medical student interest in OBGYN as a profession has been decreasing over the years[1-2]. In an attempt to counteract this trend, LSUHSC has redeveloped the third year medical student clerkship curriculum to increase student interest and satisfaction, as well as medical knowledge in the field of OBGYN. Several studies have looked at novel approaches to student education, including preceptors[3-11] and team-based learning[12-17]. The new LSUHSC curriculum includes assigned preceptors, a weekly team-based learning (TLB) session, mandatory weekly uWISE quizzes, and culminates with a NSBME shelf exam. All aspects of the curriculum are used to calculate final clerkship grades and the students are evaluated by faculty, preceptors, residents, and fellow students. The prior curriculum included more lecture-based teaching, no assigned preceptors, no TBL, optional uWISE quizzes, and ended with the shelf exam. Grades were calculated in a similar fashion but without evaluations from fellow students. Both groups of students were given the option to fill out anonymous end of rotation evaluations. In this study, we will attempt to evaluate the effectiveness of the new curriculum in terms of student satisfaction, performance on the NSBME shelf exam, and interest in OBGYN as a career choice.

Hypothesis

Incorporating a more interactive and clinical based clerkship curriculum will increase student NSBME shelf exam scores, student satisfaction with the OBGYN clerkship, and interest in OBGYN as a career choice

Materials and Methods

The grades and evaluations of 115 LSUHSC 3rd year medical students from the OBGYN clerkship just prior to the July 1, 2012 curriculum implementation will be obtained and compared to 115 students after July 1, 2012. Students' t-test will be used to compare the shelf exam scores of medical students exposed to the old versus the new curriculum. Multiple linear regression will be used to compare the mean shelf exam scores of medical students exposed to the old curriculum versus the new curriculum after adjusting for MCAT and Step 1 scores.

Students' open ended comments regarding their satisfaction with the curriculum will be dichotomized as either positive or negative to evaluate student satisfaction. The total number of LSU students matching into an OBGYN residency will compared by year and curriculum via Pearson's X^2 test. Based on estimates of the variability of the shelf exam scores of students exposed to the new curriculum, the anticipated sample size of 115 students exposed to the old curriculum and 115 students exposed to the new curriculum will provide over 90% power to detect a 5% difference in the curriculums' mean shelf exam scores at the 5% significance levels.

Expected Results

The new curriculum will increase NSBME shelf exam scores and student satisfaction with the clerkship. The curriculum will have little effect on OBGYN as a career choice, as many other factors contribute to this decision, including personal interests and desired lifestyle.

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Tracking Resident Surgical Competency: Paper Versus Electronic

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Literature Review and Justification

Much of the research concerning the evaluation of resident technical skills has two common themes: developing methods to teach proficiency in surgical technique and utilizing objective faculty evaluation surveys to assess those skills. While theoretically valuable, these faculty evaluations tend to be paper forms that are completed sometime after the procedure has been performed. Paper evaluations are often not discussed directly with the resident, and important detail about the resident's performance will be forgotten if a significant amount of time has elapsed from the completion of the operation and the completion of the evaluation form. Also, due to the busy nature of academic medicine there are many competing priorities that may prevent the faculty member from ever completing a paper evaluation form and making sure it reaches the resident's educational file.

Hypothesis

An electronic evaluation process that requires a discussion between the faculty and resident following every technical procedure which is immediately transmitted electronically via Smart Phone from the operating room to the resident's education file would be utilized by the faculty more often than the paper evaluation format.

Materials and Methods

The LSU Department of Obstetrics and Gynecology developed a unique electronic evaluation process that mandates face-to-face discussion between faculty and residents immediately following every technical procedure. The process employs the Microsoft TAG system utilizing the Microsoft QR code generator and Survey Monkey. A short survey form for each resident is placed on Survey Monkey. After the procedure the faculty member uses a smart phone to scan the resident's individual tag on her ID badge. This opens the resident's evaluation on Survey Monkey. After reviewing the details of the case with the resident, the faculty member transmits the electronic form immediately to the resident's education file. This study will compare a 6 month period of usage of the TAG evaluation system to the same 6 month period a year earlier when the paper evaluation forms were used to determine if there is a significant difference in the utilization of the two different methods.

Expected Results

Initial satisfaction surveys have shown rapid acceptance of the electronic evaluation format. The majority of faculty have completed the evaluation and resident discussion in less than 5 minutes and transmitted the evaluation to the resident's education file before leaving the surgical suite. Residents have also indicated satisfaction with the process. The expectation is that the electronic evaluation will be utilized in a higher percentage of surgical cases than the paper format. To determine if any differences are related to specific variables, a variety of factors such as resident year level, clinical service, seniority of the faculty member, and month of the year will be analyzed.

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2012 Resident Research Day Presentations & Awards

Arelis Figueroa, MD
Advisor: Lan Nguyen, MD
"Knowledge of Cervical Cancer Screening Among Primary Care Physicians"

Barry Hallner, MD***
Advisor: Florencia Polite, MD
"Comparison of Colposcopic Endocervical Pathology to Final Pathology on LEEP and Cold Knife Cone"

Tessie Larrieu, MD
Advisor: Danny Barnhill, MD
"Insufficient Endometrial Biopsies in the Outpatient Setting"

John Navas, MD
Advisor: Rodney J. Hoxsey, MD
"Performance and Retention Skills Among Novice and Experienced Residents on a Virtual Reality Hysteroscopic Simulator"

Jessica Rinaldo, MD
Advisor: Amy Young, MD
"Community Awareness of Postpartum Depression"

Rachel Spears, MD
Advisor: Rebekah Gee, MD
"Elective Deliveries Prior to 39 Weeks Gestational Age in Louisiana"

Gina Washington, MD
Advisor: Joseph Miller, MD
"Single Umbilical Artery: Left or Right-It May Matter"

*** 1st Place Resident Research Award, 2012

LSU OB/GYN Residents and Faculty
Presented and/or Published Research

2008 – 2013

1. Azam G, Azam I, Gonsoulin W, Nolan T. *Comparison Of The Effects Of Nifedepine and Ritrodine on Preterm Labor on Singleton Pregnancy*. American College of Obstetrics and Gynecology, May 2-6, 2009, Chicago, Illinois (Poster).

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6. Bergeron LM, Maupin RT Jr, Washington GP, Miller JM Jr. *Hypoplastic Umbilical Artery in Twins.* Central Association of Obstetricians and Gynecologists, October 18, 2012, Chicago (Poster).

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10. Ghafar, M, Bedestani, A, Soules, K, Nolan TE, Velasco, C, Chesson, RR. *POPQ point "C is not equal to Point D after Hysterectomy.* Society of Gynecologic Surgeons, 2011 San Antonio.

11. Hallner B, Polite F, Hagan J, Castellano T. *Comparing Initial Endocervical Curettage Pathology To Final Endocervical Pathology of Loop Electrosurgical Excision and Cold Knife Cone Procedures.* American College of Obstetrics and Gynecology, May 4-8, 2013, New Orleans (Poster)

12. Heard A, Socrate S, Burke K, Norwitz E, Kaplan DL, House M. *Silk-based injectable biomaterial as an alternative to cervical cerclage: an in-vitro study.* Reprod Sci, *In press*

13. Holman S, Erickson S, Magrane, D, Polite F, Hagan J, Young, A. *Teaching Quality Improvement: A Needs Assessment for OBGYN Resident Education.* Poster presented at CREOG/APGO Annual Meeting, Academic Scholars & Leaders Program, 2013.

14. Holman S, Hoxsey R, Tanner L, Miller J. *Improving Resident Delivery Documentation after a simulated shoulder dystocia.* Central Association of Obstetricians and Gynecologists, October 25, 2008, New Orleans (Oral presentation).

15. Hoxsey R, Smith M, Miller J, Nolan T. Surviving Disaster: *Assessment of Ob/Gyn Training at LSU New Orleans before and after Hurricane Katrina.* The American Journal of the Medical Sciences: 336, 151-155, 2008.

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19. Miller JM Jr. *Documentation of Shoulder Dystocia in a Community Hospital.* Central Association of Obstetricians and Gynecologists, October 26-27, 2009, Maui, Hawaii (Poster).

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27. Smith M, Miller Jr, Hoxsey R. *Surviving Disaster: Assessment of Obstetrics and Gynecology Training at LSU New Orleans Before and After Hurricane Katrina.* APGO/CREOG Annual Meeting, March 6, 2008, Orlando, Florida (Poster)

28. Suleman R, Hoxsey R. *Is performance on a basic laparoscopic skills set affected by difference in hand-eye dominance and depth perceptions?* American College of Obstetricians and Gynecologists, May, 2008, New Orleans, Louisiana (Oral Presentation). John M. Thorp Jr. M.D. Resident & Fellow Research Award, September 19, 2008, Chicago, Illinois.

29. Suleman R, Yang T, Paige J, Chauvin S, Alleyn J, Brewer M, Johnson S, Hoxsey R. *Is Performance on a Basic Laparoscopic Skills Set Affected by Differences in Hand-Eye Dominance and Dept Perception? Society of Laparoendoscopic Surgeons* 17th Annual Clinical Meeting, September, 2008, Chicago, Illinois (Oral Presentation). Best Resident paper and Best Multispecialty paper.

30. Tanner L, Hoxsey R, Holman S, Miller J. *Shoulder Dystocia Training Using the NOELLE Birthing Simulator.* Central Association of Obstetricians and Gynecologists, October 25, 2008, New Orleans (Oral presentation).

31. Washington GP, Lewis PL, Miller JM Jr. *Obstetric Intensive Care Admission to a Tertiary Center.* Central Association of Obstetricians and Gynecologists, October 18, 2012, Chicago (Poster).

32. Washington GP, Maupin RT Jr, Miller MJ Jr. *Single Umbilical Artery – Left or Right: It May Matter.* Central Association of Obstetricians and Gynecologists, October 18, 2012, Chicago (Poster).