Jeffrey F. Peipert, MD  
Vice Chair of Clinical Research;  
Robert J. Terry Professor of Obstetrics of Gynecology

Welcome to the second edition of The Current newsletter, now called The eCurrent, distributed via electronic mail. Our first edition was a success. We received overwhelmingly positive responses to the information that was provided in the last newsletter.

The objective of this newsletter is to provide faculty physicians, researchers, fellows, residents, students, and staff with up-to-date information regarding clinical research studies conducted in the Department of Obstetrics & Gynecology. Clinical research is a team effort. Successful research depends on shared knowledge, participation, collaboration, and communication. In the newsletter, we provide a sample of some of the on-going clinical research in women’s health in our department, and we hope to find new interdisciplinary collaborators to further the science and knowledge base.

The number of research projects in the Division of Clinical Research (DCR) is rapidly expanding. We are excited about our partnerships with the Departments of Medicine, Pathology, and Pediatrics. We look forward to collaborating with other departments in the near future. In addition, we are thrilled to announce the funding of a T32 grant to prepare clinicians for successful careers as independent clinical investigators in women’s health research.

We welcome your comments and suggestions.
Research Staff Highlights

**Alison G. Cahill, MD, MSCI**  
*Assistant Professor, Department of Obstetrics and Gynecology  
Washington University School of Medicine*

Alison G. Cahill, MD, MSCI is an Assistant Professor in the Department of Obstetrics and Gynecology, Division of Maternal-Fetal Medicine at Washington University School of Medicine, in St. Louis, Missouri. Dr. Cahill earned her undergraduate degree from Yale University, and her medical degree from University of Connecticut School of Medicine. She completed her residency training in obstetrics and gynecology at University of Pennsylvania Medical Center. She completed a fellowship in maternal-fetal medicine at Washington University. During her fellowship, Dr. Cahill also earned a Master’s of Science in Clinical Investigation as part of the NIH-sponsored K30 program in clinical research training at Washington University School of Medicine.

Dr. Cahill’s clinical interests include maternal medical complications in pregnancy, specifically maternal congenital heart disease as well as diabetes in pregnancy, critical care obstetrics, fetal alloimmunization, and operative vaginal delivery.

Dr. Cahill’s research interests are best described as clinical epidemiology in obstetrics, applying a broad array of research design and analytic techniques such as regression analyses, decision science, economic analysis, and time-dependent techniques to some of the challenging questions in clinical obstetrics. These have included patient selection and intrapartum management of patients attempting vaginal birth after cesarean (VBAC), measures of glycemic control which can predict adverse neonatal outcomes in diabetic pregnancies, and diagnostic algorithms for pulmonary embolism in pregnant women.

Dr. Cahill has been chosen for the Robert Wood Johnson Foundation (RWJF) Physician Faculty Scholars Program. This award is to help outstanding junior faculty in medical schools to develop their careers in academic medicine. This is the first time a Washington University physician has received this prestigious award.

Recently, her focus has been on electronic fetal heart rate monitoring, and its association with adverse neonatal outcomes. Her RWJF Physician Faculty Scholars Program project, “Prediction of Fetal Acidemia with Intrapartum Fetal Heart Rate Monitoring,” will be examining features of Category II EFM recordings and their ability to predict outcomes. She aims to incorporate these findings into improving the use of the most commonly utilized instrument, EFM, in all of obstetrics.
Gina Secura, PhD, MPH

Senior Scientist/Epidemiologist, Department of OB/GYN, Division of Clinical Research, Washington University

Gina Secura, PhD, MPH is a Senior Scientist/Epidemiologist at Washington University in the Department of Obstetrics and Gynecology in St. Louis Missouri.

She received her Bachelor of Arts degree in biology from the University of California at Santa Barbara in 1987 and her master of public health degree from Saint Louis University in 1996. From 1997 through 2002 she was employed as an epidemiologist at the Centers for Disease Control and Prevention (CDC) conducting HIV risk behavior and prevalence studies in adolescent populations. In 2002, she served as a consultant to the World Health Organization in Nepal and provided technical assistance to their Expanded Program on Immunization and Polio Eradication. Also in 2002, she served as a consultant to the CDC’s Global AIDS Program in Malawi, Africa where she provided technical assistance in implementing an HIV seroprevalence and risk behavior survey. Dr. Secura completed her PhD in public health studies at Saint Louis University in 1996.

Dr. Secura’s current role at Washington University is the Project Director for the Contraceptive CHOICE Project. The objective of this prospective cohort study is to reduce the barriers to obtaining the most effective methods of contraception (e.g., intrauterine contraception and subdermal implant) to reduce unintended pregnancy rates in the St. Louis region. The study will enroll 10,000 women from the St. Louis region over a four-year period and follow participants for three years. The study will measure contraceptive method satisfaction, side effects, and continuation among participants and unintended pregnancy rates at the population level. Additionally, the project screens participants for sexually transmitted infections (STI), particularly chlamydia and gonorrhea.

Dr. Secura’s research interests are best described as sexually transmitted infections among adolescents, affordable contraception and international public health. Dr. Secura’s previous research includes: HIV prevalence and risk among young men who have sex with men, young women of color in New York City, and male bathhouse attendees in Los Angeles.

Dr. Secura enjoys gardening, cooking, entertaining friends, and traveling to Italy. She is married to Bob Nease and has two stepsons, two cats and three chickens.
What’s Happening at the DCR
The DCR is rapidly growing! Below is a list of current studies conducted within the Division.

OBSTETRICS

BLADDER FLAP STUDY
PI: Methodius Tuuli, MD, MPH
A randomized controlled trial to evaluate the effects of omitting the bladder flap creation at cesarean section. A total of 348 patients over 34-weeks gestation undergoing a primary or repeat non-emergent cesarean section will be enrolled.

DIABETES STUDY
PI: Alison Cahill, MD, MSCI · CRNC: Mary Koenig, RN
Sponsored by a Thrasher Grant
A prospective study aimed at assessing optimal predictors of fetal macrosomia, birth trauma, or combined neonatal morbidity outcomes in diabetic pregnant women. Recruitment occurs in the ante-partum clinic, BJH and CAM. A total of 340 pregnant women will be enrolled over a four-year period.

ELECTRONIC FETAL MONITORING STUDY
PI: Alison Cahill, MD, MSCI · CRNC: Carla Chung RN, BSN, Danielle Frueh, RN, BSN
Sponsored by a Robert Wood Johnson Grant
A retrospective cohort study aimed at identifying which characteristics of fetal heart rate decelerations are associated with fetal acidemia at delivery. This is done by quantitatively analyzing electronic EFM recordings in the second stage of labor, and comparing these characteristics between women who deliver an infant with an umbilical cord pH ≤ 7.10 to those with a cord pH > 7.10. A total of 5,000 charts will be reviewed over a three-year period.

IUGR STUDY
PI: Anthony Odibo, MD, MSCE · CRNC: Linda Odibo, RN, BSc
A prospective cohort study aimed at comparing the ability of two antepartum tests, (Doppler flow studies of feto-placental vessels and biophysical profile), to optimally determine the timing of delivery of preterm intrauterine growth-restriction pregnancies. Recruitment occurs in the Obstetric Ultrasound Department, BJH and Missouri Baptist Medical Center. A total of 318 pregnant women will be enrolled.

LEEP STUDY
PI: George Macones, MD, MSCE · CRNC: Julie Statzel, RN, BSN · RA: Lenise Neal, PCT
Sponsored by an NIH RO1 Grant
A retrospective cohort study aimed at assessing whether a LEEP procedure increases the risk of spontaneous pre-term birth and other adverse pregnancy outcomes, compared to women who have not had a LEEP procedure. A multi-centered trial of hospitals in Missouri, Illinois and Rhode Island (Washington University is the co-coordinating center). A total of 1,800 women will be enrolled over a four-year period.

OXYGEN STUDY
(Peri-Op: Prophylactic Oxygen for the Prevention of Post-Cesarean Infectious Complications)
PI: David Stamilio, MD, MSCE · CRNC: Patty Fogerty, RN, MSN
Sponsored by a Barnes Jewish Foundation Grant
The study aim is to evaluate the utility of supplemental oxygen during a cesarean section and for two hours post-procedure in preventing post-cesarean infectious morbidity. Recruitment sites include Barnes Jewish Hospital Labor and Delivery, Obstetric clinic and Women’s Health Center in the Center for Advanced Medicine. A total of 556 pregnant women will be enrolled over an 18-month period.
PLACENTAL FUNCTION STUDY
Pl: Methodius Tuuli, MD, MPH · CRNC: Linda Odibo, RN, BSc
This is a prospective cohort study of pregnant women between 18-22 weeks gestation who are undergoing their second trimester fetal anatomy scan. The study aims to determine if a single parameter of placental structure, blood flow, or analyte secretion in the second trimester predicts sub-optimal pregnancy outcome and to determine if combination of first trimester and second trimester placental assessment and analyte secretion improve the predicative value of the model to predict adverse pregnancy outcome. A total of 1,500 women will be recruited from Obstetric Ultrasound Department, BJH over a two-year period.

PREDICTING ADVERSE PREGNANCY OUTCOMES
Pl: Anthony Odibo, MD, MSCE · CRNC: Linda Odibo, RN, BSc
This is a prospective cohort study of pregnant women between 11-14 weeks gestation undergoing their first trimester aneuploidy scan. The aim of the study is to determine if a single parameter of placental structure, blood flow, or analyte secretion predicts sub-optimal pregnancy outcome. The study includes doppler evaluation of uterine arteries, assessment of placental volume, maternal serum for free beta-hCG and PAPP-A, with the addition of ADAM12s levels. A total of 1,500 women will be recruited from Obstetric Ultrasound Department, BJH over a two-year period.

PRETERM LABOR STUDY
Pl: David Stamilio, MD, MSCE · CRNC: Linda Odibo, RN, BSc, Mary Koenig, RN
Sponsored by GlaxoSmithKline
A multi-centered, international, randomized, double-blind, placebo controlled, dose ranging study to investigate the safety, tolerability and pharmacodynamic of GSK221149A administered intravenously in healthy, pregnant females with uncomplicated pre-term labor between 30–36 weeks gestation. The study aim is to investigate the safety, tolerability, pharmacokinetics and pharmacodynamics of intravenous and oral GSK221149A (an investigational drug) in the treatment of pre-term labor. A total of 12 pregnant women at BJH will be enrolled.

PROGESTERONE/SHORT CERVIX STUDY
Pl: Anthony Odibo, MD, MSCE · CRNC: Linda Odibo, RN, BSc
Sponsored by Columbia Laboratories Inc
An international multi-centered, randomized controlled trial aiming to reduce the risk of pre-term delivery in pregnant women at increased risk of pre-term delivery due to a short cervical length. Randomization would be to either a placebo or Prochieve® (progesterone), gel given vaginally. Recruitment will occur in the Obstetric Ultrasound Department. A total of 30 pregnant women will be enrolled at Washington University (300 in total).

TWIN BIRTH STUDY
Pl: George Macones, MD, MSCE · CRNC: Linda Odibo, RN, BSc
Sponsored by a Canadian Institutes of Health Grant
A multi-centered, international randomized controlled trial to determine the optimal delivery management for twin pregnancies between 32-38 weeks gestation where Twin A is vertex, in order to reduce maternal and fetal/neonatal mortality and morbidity comparing planned caesarean section with planned vaginal birth for twins at 32-38 weeks gestation. A multi-centered, international study coordinated by the Centre for Mother, Infant and Child Research, Toronto, Canada. The study Recruitment will occur in the ante-partum clinics, BJH. A total of 24 pregnant women will be enrolled over a five-year period.

THE ST. LOUIS NEONATAL GUT MICROBIOME INITIATIVE
(Twin Study)
Pl: Barbara Warner, MD · CRC: Christine Kramer
Sponsored by the Children’s Discovery Institute of St. Louis Children’s Hospital
A twin birth cohort study aimed at testing the relative roles of host genotype versus early environmental exposures (mother, diet, etc) on gut microbial ecology. This will compare how similar the microbial community is for identical twins to non-identical twins in the first year of life. Recruitment will occur at Center for Advanced Medicine, Labor and Delivery at BJC, and Missouri Baptist Hospital. The study aims to enroll 100 mothers and obtain 25 monozygotic twin pregnancies over 34-weeks gestation.
**VITAMIN D STUDY**  
(Vitamin D Antenatal Asthma Reduction Trial (VDAART))  
*PI: Robert Strunk, MD · CRNC Monica Anderson, RN, BSN · RPC: Jennifer Byers*  
Sponsored by a NIH Grant  
A multi-centered randomized double blind controlled trial to determine whether sufficient vitamin D supplementation in the pregnant mother is associated with reduced incidence of asthma in the child during the first three-years of life. Our primary outcomes will be doctor’s diagnosis of asthma and/or recurrent wheeze in the child at age three-years. A total of 290 patients at Washington University will be recruited over two-years.

**GYNECOLOGY**

**BACTERIAL VAGINOSIS AND INDUCED ABORTION**  
*PI: Tessa Madden, MD · CRNC Danae Larson, RN, BSN*  
This research project is a prospective study of the prevalence of bacterial vaginosis in 500 women undergoing medication and surgical abortion. The aim of the study is to collect information about possible risk factors for bacterial vaginosis and determine if there is an association with demographic or behavioral characteristics and the presence of BV in our patient population. About 200 women will join this study at Washington University in St. Louis.

**THE CONTRACEPTIVE CHOICE PROJECT**  
*PI: Jeffery Peipert, MD, PhD · Project Director: Gina Secura, PhD*  
Sponsored by an anonymous foundation  
The study aim is to reduce the number of unintended pregnancies in the St. Louis area by providing no cost contraception of a woman’s choice for three years, including STD and HIV testing and STD treatment. Recruitment occurs at the Division of Clinical Research, as well as multiple family planning clinics in the St. Louis region. A total of 10,000 women will be enrolled over a four-year period with follow-up for three-years after enrollment.

**THE CONTRACEPTIVE CHOICE DECISION MAKING TOOL**  
*PI: Tessa Madden, MD · Project Director: Gina Secura, PhD*  
Sponsored by a Society of Family Planning (SFP) Grant  
The aim of this study is to conduct the formative research necessary to develop a computerized decision-making tool that incorporates the social and cultural factors that influence women’s contraceptive decisions; and therefore increase satisfaction, knowledge, and decision certainty with the contraceptive decision-making process. Through focus groups, surveys and initial assessments among women and clinicians we will develop a web-based interactive computerized tool that will be pilot tested with participants in the Contraceptive CHOICE Project.

**ESTROGEN PATCH STUDY**  
*PI: Tessa Madden, MD · CRNC Danae Larson, RN*  
Sponsored by an ACOG Grant  
A randomized, placebo controlled trial comparing the use of transdermal estradiol, oral naproxen or a placebo for the prevention of unscheduled intermenstrual bleeding in the first three months in new levonorgestrel intrauterine device (LNG-IUC) users, with follow-up for one year. Recruitment will occur among patients participating in the Contraceptive Choice Project who have chosen the LNG-IUC for the first-time use contraception. A total of 114 women will be enrolled.

**INCIDENT SEXUALLY TRANSMITTED INFECTION, RACE, BACTERIAL VAGINOSIS AND HUMAN LEUKOCYTE ANTIGENS STUDY**  
*PI: Jenifer Allsworth, PhD · CRNC Danae Larson, RN, BSN*  
The study is a nested case-control study within a prospective cohort study. The aim of the study is to estimate the prevalence of HLA alleles and haplotypes, their association with susceptibility to sexually transmitted infections and interactions with race/ethnicity and other vaginal conditions (bacterial vaginosis). It will take place in connection with the Contraceptive CHOICE Project and plans to recruit 180 participants and follow them for 12-months.
INSURANCE COVERAGE & IVF OUTCOMES STUDY
*PI: Emily Jungheim, MD · CRNC: Amy Bass RN, BSN*
A retrospective cohort study comparing patient level data from IVF cycles performed at Washington University. Three cohorts include: IVF cycles covered by the Illinois insurance mandate, IVF cycles covered by insurance that is not mandated, and IVF cycles paid for out of pocket. Data from these cohorts will be compared to determine if 1) state mandated IVF insurance coverage affects IVF outcomes, 2) state mandated IVF insurance coverage influences physician practice patterns during IVF cycles, and 3) state mandated insurance coverage for IVF affects patient's decisions regarding their IVF cycles. Approximately 3,200 IVF cycles will be reviewed.

OVARIAN RESERVE AND JUVENILE/ADULT RHEUMATOID ARTHRITIS STUDY
*PI: Amber R. Cooper, MD · CRNC: Mary Koenig, RN*
Sample analysis supported by Beckman Coulter, Inc.
This is a prospective study aimed at evaluating ovarian reserve in females 4-50 years of age with the diagnosis of RA or JRA/JIA. The purpose is to evaluate the effects of disease severity and biologic/cytotoxic therapies on ovarian function. Recruitment of patients is at SLCH and the Rheumatology Clinic at the CAM. Recruitment began in December, 2008 and will continue until 300 patients are enrolled.

REPRODUCTIVE OUTCOMES IN OBESE WOMEN WITH INFERTILITY STUDY
*PI: Emily Jungheim, MD · CRNC: Amy Bass, RN, BSN*
A prospective cohort study of obese versus non-obese women undergoing in-vitro fertilization with the objective to study potential contributions of leptin, and adiponectin to poor reproductive outcomes among obese women. Recruitment will occur in the Department of Reproductive Endocrinology and Infertility. Approximately 450 IVF cycles and seven patients will be recruited from each group.

WHSC “WOMEN’S HEALTH SPECIMEN CONSORTIUM” STUDY
*PI: Ann Gronowski, PhD; Kelle Moley, MD, Jenifer Allsworth, PhD · CRC: Christine Kramer*
Sponsored by an ICTS Collaborative Research Grant
The study aim is to create a structure to facilitate the collection of patient specimens for women’s health research. The bank will provide specimen collection, specimen storage and processing, as well as the maintenance of a comprehensive database of outcomes data for five hypothesis driven projects in the first year. This process will be done working together with the ICTS’s Translational Pathology and Molecular Phenotyping (TPMP) core. Recruitment will occur at Washington University Infertility and Reproductive Medicine Center and the Center for Advanced Medicine. Approximately 360 women will be enrolled in the first year.

ONCOLOGY

AVENTIS FIRST LINE OVARIAN TREATMENT STUDY
*PI: David G. Mutch, MD · CCRP: Lynne Lippmann, CCRP*
Sponsored by Aventis
A Phase II study to determine the effectiveness of Carboplatin/Docetaxel + Day 2 peglated G-CSF for stage III/IV Ovarian cancer or primary peritoneal cancer. Recruitment will occur in the gynecological oncology patient offices or hospital setting with 40 patients being recruited over a four-year period. Single site study.

BEV/ALIMTA STUDY
*PI: David G Mutch, MD · CCRP: Lynne Lippmann, CCRP*
Sponsored by Eli Lilly/Genentech
A Phase II study to determine the effectiveness of Pemetrexed/Bevacizumab for recurrent ovarian cancer. Recruitment will occur in the gynecological oncology patient offices or hospital setting with 35 patients being recruited over a three to four year period. Single site study.
BIOBEHAVIORAL INFLUENCES
_Pi: Premal H, Thaker, MD · CCRP: Lynne Lippmann, CCRP_
Sponsored by an NIH Grant
The aim of the study is to examine biobehavioral influences with the ovarian tumor microenvironment. Recruitment will occur in the gynecological oncology patient offices or hospital setting with 195-patients being recruited at Washington University over a five-year period. University of Iowa and University of Miami are collaborating.

BMS IXABEPILON STUDY – MULTI-CENTER
_Pi: Matthew A. Powell, MD · CRNC: Lynne Lippmann, CCRP_
Sponsored by Bristol-Myers Squibb
A Phase III study to determine the effectiveness of Ixabepilone versus Paclitaxel or Doxorubicin on locally advanced recurrent or metastatic endometrial cancer. Recruitment will occur in the gynecological oncology patient offices or hospital setting with five patients being recruited over a two to three year period.

CIS/TOPO/AVASTIN STUDY – MULTI-CENTER
_Pi: Israel Zighelboim, MD · CCRP: Lynne Lippmann, CCRP_
Sponsored by GlaxoSmithKline/Genentech
A Phase II study to determine the effectiveness of Topotecan, Cisplatin, Bevacizumab for recurrent, persistent SCCA, adenosquamous or adenocarcinoma of the cervix. Recruitment will occur in the gynecological oncology patient offices or hospital setting with a total of 27 patients being recruited from all sites over a three to four year period. Recruitment will occur at Washington University (lead site), Ohio State University and Duke University.

DAIICHI FIRST-LINE TREATMENT
_Pi: David G Mutch, MD · CCRP: Lynne Lippmann, CCRP_
Sponsored by DAIICHI Sankyo
A Phase II study to determine the effectiveness of Carboplatin/Paclitaxel + CS1008 in III/IV suboptimal, Stage IIIC/IV ovarian cancer or primary peritoneal cancer. Recruitment will occur in the gynecological oncology patient offices or hospital setting with 20-patients being recruited at each site over a two to three year period. Recruitment will occur at Washington University and University of Alabama-Birmingham.

GYNECOLOGIC ONCOLOGY GROUP 0229I
_Pi: David G Mutch, MD · GOG STUDY CO-CHAIR: Mathew A. Powell · CCRP: Lynne Lippmann, CCRP_
Sponsored by Gynecologic Oncology Group (GOG 029I)
A Phase II study to determine the effectiveness of Brivanib on recurrent or persistent endometrial cancer. Recruitment will occur in the gynecological oncology patient offices or hospital setting with five patients being recruited over a one to two year period. (GOG Cooperative group study)
If we missed your publication, please let us know and we will be happy to include it in the next issue of the newsletter.

**Douching and the risk for sexually transmitted disease: Tsai et al.**
Allsworth JE, Hladky KJ, Hotchkiss T, McNicholas C, Rohn A.

**Physical and sexual violence and incident sexually transmitted infections.**
Allsworth JE, Anand M, Redding CA, Peipert JF.
*J Womens Health (Larchmt).* 2009 Apr;18(4):529-34.

**Trichomoniasis and Other Sexually Transmitted Infections: Results From the 2001-2004 National Health and Nutrition Examination Surveys.**
Allsworth JE, Ratner JA, Peipert JF.
*Sex Transm Dis.* Epub 2009 Sep 3.

**Pregnancy loss rate after mid-trimester amniocentesis in twin pregnancies.**
Cahill AG, Macones GA, Stamilio DM, Dicke JM, Crane JP, Odibo AO.

**Magnesium for neuroprophylaxis: fact or fiction?**
Cahill AG, Caughey AB.

**Diagnosing pulmonary embolism in pregnancy using computed-tomographic angiography or ventilation-perfusion.**
Cahill AG, Stout MJ, Macones GA, Bhalla S.

**Age of sexual debut among US adolescents.**
Cavazos-Rehg PA, Krauss MJ, Spitznagel EL, Schootman M, Bucholz KK, Peipert JF, Sanders-Thompson V, Cottler LB, Bierut LJ.

**Sleep deprivation during pregnancy and maternal and fetal outcomes: Is there a relationship?**
Chang JJ, Pien GW, Duntley SP, Macones GA.

**Operative vaginal delivery: current trends in obstetrics.**
Goetzinger KR, Macones GA.

**Effect of gestational age at the prior cesarean delivery on maternal morbidity in subsequent VBAC attempt.**
Harper LM, Cahill AG, Stamilio DM, Odibo AO, Peipert JF, Macones GA.

**Methodology and Analytic Techniques Used in Clinical Research: Associations With Journal Impact Factor**
Kuroki, Lindsay M.; Allsworth, Jenifer E.; Peipert, Jeffrey F.
IFPA meeting 2008 workshops report.

MgSO4 for CP prevention: too good to be true?
Macones GA.

Successful management of second-trimester postabortion hemorrhage with an intrauterine tamponade balloon.
Madden T, Burke AE.

Rates of follow-up and repeat pregnancy in the 12 months after first-trimester induced abortion.
Madden T, Westhoff C.

Reversible contraception update: the importance of long-acting reversible contraception.
Mestad RE, Kenerson J, Peipert JF.

Odibo AO, Caughey AB, Grobman W, Stamilio DM, Ville Y.

Does the combination of fronto-maxillary facial angle and nasal bone evaluation improve the detection of Down syndrome in the second trimester?
Odibo AO, Schoenborn JA, Haas K, Macones GA.

Metaanalysis vs large clinical trials: which should guide our management?
Scifres CM, Iams JD, Klebanoff M, Macones GA.

Intrauterine growth restriction, human placental development and trophoblast cell death.
Scifres CM, Nelson DM.

Predicting Perinatal Mortality in Preterm Intrauterine Growth Restriction.
Scifres CM, Stamilio D, Macones GA, Odibo AO.

Is continuous monitoring the answer to incidentally observed fetal heart rate decelerations?
Sisco KM, Cahill AG, Stamilio DM, Macones GA.

Neonatal outcomes in relation to timing of repeat cesarean delivery at term.
Tuuli MG, Odibo AO.