EDITORIAL

235 Health and economic burden of preeclampsia: no time for complacency
Rui Li; Eleni Z. Tsigas; William M. Callaghan
Related article, page 237

REPORTS OF MAJOR IMPACT

237 Short-term costs of preeclampsia to the United States health care system
Warren Stevens; Tiffany Shih; Devin Incerti; Thanh G. N. Ton; Henry C. Lee; Desi Peneva; George A. Macones; Baha M. Sibai; Anupam B. Jena
In 2012, the medical costs of preeclampsia within the first 12 months of delivery were $2.18 billion in the United States ($1.03 billion for mothers and $1.15 billion for infants) and were disproportionately borne by births of low gestational age.
Related editorial, page 235

SPECIAL REPORT

249 Research standardization tools: pregnancy measures in the PhenX Toolkit
Ann Kinga Malinowski; Cande V. Ananth; Patrick Catalano; Erin P. Hines; Russell S. Kirby; Mark A. Klebanoff; John J. Mulvihill; Hyagriv Simhan; Carol M. Hamilton; Tabitha P. Hendershot; Michael J. Phillips; Lisa A. Kilpatrick; Deborah R. Maiiese; Erin M. Ramos; Rosalind J. Wright; Siobhan M. Dolan; for the PhenX Pregnancy Working Group
The addition of pregnancy protocols to the PhenX Toolkit, a National Institutes of Health—sponsored online resource, provides scientists with well-established measures for pregnancy-related biomedical research.

GIANTS IN OBSTETRICS AND GYNECOLOGY

263 Giants in Obstetrics and Gynecology Series: A profile of Leon Speroff, MD
Roberto Romero
(continued)
EXPERT REVIEWS

270 Pregnancy and birth outcomes in couples with infertility with and without assisted reproductive technology: with an emphasis on US population-based studies
Barbara Luke
Subfertile women, with and without treatment, have increased risks for adverse pregnancy and perinatal outcomes.

282 Metformin, the aspirin of the 21st century: its role in gestational diabetes mellitus, prevention of preeclampsia and cancer, and the promotion of longevity
Roberto Romero; Ofer Erez; Maik Hüttemann; Eli Maymon; Bogdan Panaitescu; Agustin Conde-Agudelo; Percy Pacora; Bo Hyun Yoon; Lawrence I. Grossman
Metformin, long known to be an herbal medicine, has evolved from its use as a popular treatment for diabetes mellitus into a drug with a significantly wider array of beneficial effects that range from cancer treatment to extending longevity and, in our field, gestational hypertension and preeclampsia in obese women.

SYSTEMATIC REVIEWS

303 Preemptive analgesia for postoperative hysterectomy pain control: systematic review and clinical practice guidelines
Adam C. Steinberg; Megan O. Schimpf; Amanda B. White; Cara Mathews; David R. Ellington; Peter Jeppson; Catrina Crisp; Sarit O. Aschkenazi; Mamta M. Mamik; Ethan M. Balk; Miles Murphy
Preemptive nonnarcotic and narcotic medications prior to total abdominal hysterectomy decrease total narcotic requirements and improve patient postoperative pain assessment and satisfaction scores.

CLINICAL OPINION

314 Optimizing postpartum care for the patient with gestational diabetes mellitus
Noelle G. Martinez; Charlotte M. Niznik; Lynn M. Yee
Optimizing postpartum care for women with gestational diabetes mellitus includes establishing systems to ensure timely glucose tolerance testing and promote effective hand off to primary care providers.

CALL TO ACTION

322 Reproductive rights advocacy: not just for the family-planning community
Cara C. Heuser; Karen J. Gibbins; Marcela C. Smid; D. Ware Branch
Perinatologists should join our family-planning colleagues in advocating for the reproductive rights of our patients, including access to contraception and pregnancy termination.
ORIGINAL RESEARCH

Articles abstracted in this issue appear in full at ajog.org

GYNECOLOGY

325 Decreasing postoperative narcotics in reconstructive pelvic surgery: a randomized controlled trial
Krista M. L. Reagan; David M. O’Sullivan; Richard Gannon; Adam C. Steinberg
Compared to usual pain management treatments, a multimodal pain regimen decreased the amount of postoperative narcotic use after reconstructive pelvic surgery.

327 Pregnancy, birth, and infant outcomes by maternal fertility status: the Massachusetts Outcomes Study of Assisted Reproductive Technology
Barbara Luke; Daksha Gopal; Howard Cabral; Judy E. Stern; Hafsatou Diop
Subfertile and in vitro fertilization—treated women and their infants are at higher risk for adverse pregnancy and perinatal outcomes, particularly uterine bleeding and placental complications.

330 Adverse pregnancy, birth, and infant outcomes in twins: effects of maternal fertility status and infant gender combinations; the Massachusetts Outcomes Study of Assisted Reproductive Technology
Barbara Luke; Daksha Gopal; Howard Cabral; Judy E. Stern; Hafsatou Diop
Risks among subfertile and in vitro fertilization twins were increased, highest for uterine bleeding and placental complications, and neonatal and infant death, among like gender twins born to subfertile women.

332 Survival of women with microinvasive adenocarcinoma of the cervix is not improved by radical surgery
Lisa M. Bean; Kristy K. Ward; Steven C. Plaxe; Michael T. McHale
Prospective planning of conservative excision may be appropriate in low risk patients with microinvasive adenocarcinoma of the cervix.

334 BRCA mutational status, initial disease presentation, and clinical outcome in high-grade serous advanced ovarian cancer: a multicenter study
Marco Petrillo; Claudia Marchetti; Rossella De Leo; Angela Musella; Ettore Capoluongo; Ida Paris; Pierluigi Benedetti Panici; Giovanni Scambia; Anna Fagotti
BRCA mutational status influences presentation of disease in women with ovarian cancer and there are differences in terms of spread between BRCA1 and BRCA2.

336 Population-attributable fraction of tubal factor infertility associated with chlamydia
Rachel J. Gorwitz; Harold C. Wiesenfeld; Pai-Lien Chen; Karen R. Hammond; Karen A. Sereday; Catherine L. Haggerty; John R. Johnson; John R. Papp; Dmitry M. Kissin; Tara C. Henning; Edward W. Hook III; Michael P. Steinkampf; Lauri E. Markowitz; William M. Geisler
The attributable fraction of tubal factor infertility associated with chlamydia is low but varies by race, Chlamydia trachomatis antibody measure, and definition of tubal factor infertility.

(continued on page 7A)
ORIGI NAL RESEARCH  (continued from page 5A)

338 Effect of professional society recommendations on women’s desire for a routine pelvic examination
George F. Sawaya; Karen K. Smith-McCune; Steven E. Gregorich; Michelle Moghadassi; Miriam Kuppermann
Providing women with a professional society’s recommendation advising against routine pelvic examinations substantially reduced their desire to have one.

340 Trends in malpractice claims for obstetric and gynecologic procedures, 2005 through 2014
Laura M. Glaser; Farah A. Alvi; Magdy P. Milad
Litigation claims associated with obstetrics and gynecology procedures are associated with high average payments and high paid-to-closed ratios compared to other specialties.

OBSTETRICS

342 The maternal childbirth experience more than a decade after delivery
Carla M. Bossano; Kelly M. Townsend; Alexandra C. Walton; Joan L. Blomquist; Victoria L. Handa
Long-term satisfaction with the childbirth experience is multidimensional and influenced by mode of delivery, with cesarean delivery perceived as more distressing and less fulfilling.

344 The impact of postpartum hemorrhage on hospital length of stay and inpatient mortality: a National Inpatient Sample—based analysis
Ariela L. Marshall; Urshila Durani; Adam Bartley; Clinton E. Hagen; Aneel Ashrani; Carl Rose; Ronald S. Go; Rajiv K. Pruthi
Women with postpartum hemorrhage experienced significantly longer hospital length of stay and higher inpatient mortality rates than women without postpartum hemorrhage, largely attributable to nonatonic postpartum hemorrhage.

346 Patterns of gestational weight gain and birthweight outcomes in the Eunice Kennedy Shriver National Institute of Child Health and Human Development Fetal Growth Studies—Singletons: a prospective study
Sarah J. Pugh; Paul S. Albert; Sungduk Kim; William Grobman; Stefanie N. Hinkle; Roger B. Newman; Deborah A. Wing; Katherine L. Grantz
A low or high second-/third-trimester gestational weight gain presents significant added risk for adverse birthweight outcomes.

348 Association between gestational weight gain and perinatal outcomes in women with chronic hypertension
Lynn M. Yee; Aaron B. Caughey; Yvonne W. Cheng
Among women with chronic hypertension, weight gain below guidelines is associated with small-for-gestational-age status, whereas weight gain above guidelines is associated with cesarean delivery, eclampsia, neonatal intensive care unit admission, and large-for-gestational-age status.

(continued)
350 The placental imprinted DLK1-DIO3 domain: a new link to prenatal and postnatal growth in humans
Anna Prats-Puig; Gemma Carreras-Badosa; Judit Bassols; Patricia Cavelier; Agnès Magret; Cristina Sabench; Francis de Zegher; Lourdes Ibáñez; Robert Feil; Abel López-Bermejo
Placental DNA methylation at the DLK1-DIO3 domain’s IG-DMR and MEG3 promoter DMR relates to measures of early human growth, and may thus contribute to its control.

Nicole L. Davis; Donna L. Hoyert; David A. Goodman; Ashley H. Hirai; William M. Callaghan
Recent maternal mortality ratio increases are predominantly from increased mortality risk, primarily due to increased maternal death identification, and not shifting maternal age distribution.

354 The relationship of the subtypes of preterm birth with retinopathy of prematurity
Anne M. Lynch; Brandie D. Wagner; Jennifer K. Hodges; Tamara S. Thevarajah; Emily A. McCourt; Ashlee M. Cerda; Naresh Mandava; Ronald S. Gibbs; Alan G. Palestine
Type 1 or type 2 retinopathy of prematurity is linked with not only lower gestational age and birth weight at delivery but also with the subtypes of preterm birth.

356 Early pregnancy vaginal microbiome trends and preterm birth
Molly J. Stout; Yanjiao Zhou; Kristine M. Wylie; Phillip I. Tarr; George A. Macones; Methodius G. Tuuli
In a predominantly African-American population, significant decrease of vaginal bacterial diversity between the first and second trimester is associated with preterm birth.

358 Phorbol 12,13-dibutyrate–induced protein kinase C activation triggers sustained contracture in human myometrium in vitro
Laurence Massenavette; Wile`ne Paul; Ste´phanie Corriveau; Jean-Charles Pasquier; Eric Rousseau
This paper demonstrates that the activation of a single biochemical pathway modifies the rhythmic contractile activity of human myometrial strips into a tonic tension.

360 A randomized trial of Foley Bulb for Labor Induction in Premature Rupture of Membranes in Nulliparas (FLIP)
Jennifer M. H. Amorosa; Joanne Stone; Stephanie H. Factor; Whitney Booker; Meredith Newland; Angela Bianco
There was no difference in induction to delivery time in nulliparous patients with premature rupture of membranes who were induced using concurrent Foley bulb plus oxytocin vs oxytocin alone.
362 Randomized controlled trial of intravenous acetaminophen for postcesarean delivery pain control
Brie Altenau; Catrina C. Crisp; C. Ganga Devaiah; Donna S. Lambers
Intravenous acetaminophen reduces narcotic usage in patients after cesarean delivery.

364 Can venous cord gas values predict fetal acidemia?
Kate Swanson; Anna R. Whelan; William A. Grobman; Emily S. Miller
Venous cord gases can be used to accurately predict fetal acidemia when arterial gases cannot be obtained.

365 Impact of USPSTF recommendations for aspirin for prevention of recurrent preeclampsia
Mary Catherine Tolcher; Derrick M. Chu; Lisa M. Hollier; Joan M. Mastrobattista; Diana A. Racusin; Susan M. Ramin; Haleh Sangi-Haghpeykar; Kjersti M. Aagaard
National recommendations for aspirin were temporally associated with a reduced incidence of recurrent preeclampsia.

367 The association of single-nucleotide polymorphisms in the oxytocin receptor and G protein-coupled receptor kinase 6 (GRK6) genes with oxytocin dosing requirements and labor outcomes
Chad A. Grotegut; Emily Ngan; Melanie E. Garrett; Marie Lynn Miranda; Allison E. Ashley-Koch; Geeta K. Swamy
Oxytocin receptor and GRK6 genotype correlate with the maximal infusion rate of oxytocin, total oxytocin dose received, duration of labor, and mode of delivery among women undergoing induction of labor near term.

369 The association among cytochrome P450 3A, progesterone receptor polymorphisms, plasma 17-alpha hydroxyprogesterone caproate concentrations, and spontaneous preterm birth
Martha L. Bustos; Steve N. Caritis; Kathleen A. Jablonski; Uma M. Reddy; Yoram Sorokin; Tracy Manuck; Michael W. Varner; Ronald J. Wapner; Jay D. Iams; Marshall W. Carpenter; Alan M. Peaceman; Brian M. Mercer; Anthony Sciscione; Dwight J. Rouse; Susan M. Ramin; for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network
Trough 17-alpha hydroxyprogesterone caproate plasma concentrations are not associated with CYP3A4/5 polymorphisms, and the association between 17-alpha hydroxyprogesterone caproate and spontaneous preterm birth does not vary by polymorphisms in the progesterone receptor.

371 Gestational age at initiation of 17-alpha hydroxyprogesterone caproate and recurrent preterm birth
Angela Ning; Catherine J. Vladutiu; Sarah K. Dotters-Katz; William H. Goodnight; Tracy A. Manuck
Among women with a previous spontaneous preterm birth <28 weeks, earlier initiation of 17-alpha hydroxyprogesterone caproate therapy is associated with lower rates of recurrent prematurity.

(continued)
MEETING PAPERS (continued)

373 Interdelivery weight gain and risk of cesarean delivery following a prior vaginal delivery
Annie M. Dude; Abbi D. Lane-Cordova; William A. Grobman
Among women with a prior vaginal delivery, interdelivery weight gain was independently associated with an increased risk of cesarean delivery in a subsequent pregnancy.

375 Predictors of vaginal delivery in medically indicated early preterm induction of labor
Rachel A. Sievert; Spencer G. Kuper; Victoria C. Jauk; Melissa Parrish; Joseph R. Biggio; Lorie M. Harper
For women undergoing induction of labor <34 weeks, this model may predict which patients will deliver vaginally and identify subjects at risk of cesarean delivery.

Sarah L. Coad; Leanne S. Dahlgren; Jennifer A. Hutcheon
Using Nationwide Inpatient Sample data, the incidence, temporal trends, risk factors, and outcomes in women with acute puerperal uterine inversion are estimated.

IMAGES IN GYNECOLOGY

379 Uterine lipoleiomyoma
Aruna R. Patil; Shrivalli Nandikoor; Kapil Shirodkar; Ramya Padilu
Imaging in uterine lipoleiomyoma.

LETTERS TO THE EDITORS

380 Comment on: A randomized clinical trial of exercise during pregnancy to prevent gestational diabetes mellitus and improve pregnancy outcome in overweight and obese pregnant women
Sophie Cambos; Vincent Rigalleau; Laurence Baillet-Blanco
Reply, page 380
Chen Wang; Yumei Wei; Huixia Yang

381 Comment on: Predicting the difficulty of operative vaginal delivery by ultrasound measurement of fetal head station
Guillaume Ducarme; Jean-François Hamel; Loïc Sentilhes
Reply, page 382
Nicolas Sananès; Sidi Kasbaoui; François Severac

383 Comment on: Preventing preeclampsia with aspirin: does dose or timing matter?
Roger A. McMaster-Fay; Jonathan A. Hyett
Reply, page 383
Stephen Tong; Ben W. Mol; Susan P. Walker

(continued on page 12A)
LETTERS TO THE EDITORS  (continued from page 10A)

384 Pelvic floor trauma and maternal age
Simcha Yagel; Michal Lipschuetz; Sarah M. Cohen
Reply, page 385
Philip Rahmanou; Hans P. Dietz

386 Comment on “Clinical perspective: creating an effective practice peer review process—a primer”
Kavita Shah Arora; Jeffrey Mangel; Edward Chien
Reply, page 386
Steven Leigh Clark; Manisha Gandhi

CORRECTION

378 May 2017 (vol. 216, no. 5, page 522)
An incorrect figure appeared with an Original Research article published in May 2017. The correct figure is provided.

RECRUITMENT & EMPLOYMENT OPPORTUNITIES
15A Classified advertising