

Maternity, Obstetrics & Gynaecology Evidence Update April 2023

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NICE

National Institute for
Health and Care Excellence

Most recent guidance published or updated:

[Hypertension in pregnancy: diagnosis and management NG133](#)

Other Guidance/Reports

No new guidelines



Systematic Reviews and Research Protocols

[Angiogenesis inhibitors for the treatment of epithelial ovarian cancer](#)

Reviews from other sources

[Antibiotic therapy in patients with amniotic fluid sludge and risk of preterm birth: a meta-analysis](#)
Archives of Gynecology and Obstetrics

[Choosing blood pressure thresholds to inform pregnancy care in the community: An analysis of cluster trials](#)
BJOG

[DNA methylation associated with polycystic ovary syndrome: a systematic review](#)
Archives of Gynecology and Obstetrics

[Effects of breastfeeding training programmes for midwives on breastfeeding outcomes: a systematic review and meta-analysis](#)
BMC Pregnancy and Childbirth

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[Fetal aortic isthmus Doppler assessment to predict the adverse perinatal outcomes associated with fetal growth restriction: systematic review and meta-analysis](#)
Archives of Gynecology and Obstetrics

[Googling preterm prelabour rupture of the membranes: A systematic review of patient information available on the internet](#)
BJOG

[How does social media influence expectations, decision making and experiences of childbirth?](#)
British Journal of Midwifery

[Hybrid umbilical cord blood banking: literature review](#)
Archives of Gynecology and Obstetrics

[Incidence and risk factors for postpartum hemorrhage after vaginal delivery: A systematic review and meta-analysis](#)
Journal of Obstetrics and Gynaecology Research

[Kisspeptin as a predictor of miscarriage: a systematic review](#)
The Journal of Maternal-Fetal & Neonatal Medicine

[Maternal low and high hemoglobin concentrations and associations with adverse maternal and infant health outcomes: an updated global systematic review and meta-analysis](#)
BMC Pregnancy and Childbirth

[Molecular insights into placental iron transfer mechanisms and maternofetal regulation](#)
Archives of Gynecology and Obstetrics

[Neutrophil gelatinase-associated lipocalin as a predictor of pre-eclampsia: A systematic review and meta-analysis](#)
International Journal of Gynecology & Obstetrics

[Prenatal diagnosis of isolated coronary artery fistula: systematic review, analysis of perinatal prognostic factors and case report](#)
The Journal of Maternal-Fetal & Neonatal Medicine

[Procalcitonin levels in pregnancy: A systematic review and meta-analysis of observational studies](#)
International Journal of Gynecology & Obstetrics

[Progesterone maintenance therapy for prolongation of pregnancy after an episode of preterm labour: A systematic review and meta-analysis](#)
BJOG

[Summary of the effect of an exercise intervention on antenatal depression and the optimal program: a systematic review and Meta-analysis](#)
BMC Pregnancy and Childbirth

[THE GENETIC APPROACH TO STILLBIRTH: A SYSTEMATIC REVIEW](#)
Prenatal Diagnosis

[The impact of sound stimulations during pregnancy on fetal learning: a systematic review](#)
BMC Pediatrics

[Time to move beyond surgical classification systems for endometriosis](#)
International Journal of Gynecology & Obstetrics

[Trichomonas vaginalis infection is associated with increased risk of cervical carcinogenesis: A systematic review and meta-analysis of 470 000 patients](#)
International Journal of Gynecology & Obstetrics

Umbilical cord blood acid–base analysis at birth and long-term neurodevelopmental outcomes in children: a systematic review and meta-analysis
BJOG

Whole exome sequencing in fetuses with isolated increased nuchal translucency: a systematic review and meta-analysis
The Journal of Maternal-Fetal & Neonatal Medicine



This month's clinical questions are...

For pregnant women with a singleton pregnancy who are at risk of preterm birth, how does insertion of a cervical pessary compare with vaginal progesterone?

Primary Research

OpenAthens login may be required to read the full text, or request it from the library

Gynaecology

[A cervical screening initiative for elderly women in Denmark](#)
Acta Obstetrica et Gynecologica Scandinavica

[Are ureterolysis for deep endometriosis really all the same? An anatomical classification proposal for ureterolysis: A single-center experience](#)
International Journal of Gynecology & Obstetrics

[Associations between perceptions of shared decision making and health among hysterectomy patients: A prospective observational study](#)
International Journal of Gynecology & Obstetrics

[Association of endometrial polyps with STC-1 and STC-2 in infertile patients](#)
Journal of Obstetrics and Gynaecology Research

[Caprini assessment utilization and impact on patient safety in gynecologic surgery](#)
Archives of Gynecology and Obstetrics

[Complete perforated bladder from intrauterine devices: A case series report from a nationwide monitoring system](#)
Acta Obstetrica et Gynecologica Scandinavica

[Dienogest versus norethisterone acetate in management of endometrial hyperplasia without atypia](#)
Archives of Gynecology and Obstetrics

[Effect of intraperitoneal infusion of ropivacaine combined with dexmedetomidine in patients undergoing total laparoscopic hysterectomy: a single-center randomized double-blinded controlled trial](#)
Archives of Gynecology and Obstetrics

[Hysterectomy on benign indication and risk of pelvic organ prolapse surgery: A national matched cohort study](#)
Acta Obstetrica et Gynecologica Scandinavica

[Impact of coronavirus disease 2019 \(COVID-19\) vaccination on menstrual bleeding quantity: An observational cohort study](#)

BJOG

[Intraoperative use of tranexamic acid to reduce blood loss during cytoreductive surgery for advanced ovarian cancer: A randomized controlled clinical trial](#)

Acta Obstetrica et Gynecologica Scandinavica

[MSX1-expression during the different phases in healthy human endometrium](#)

Archives of Gynecology and Obstetrics

[Pelvic organ prolapse after hysterectomy: A 10-year national follow-up study](#)

Acta Obstetrica et Gynecologica Scandinavica

[Pelvic vein incompetence and chronic pelvic pain: a case–control study](#)

BJOG

[Role of ultrasonography in the evaluation of disease severity and treatment efficacy in adenomyosis](#)

Archives of Gynecology and Obstetrics

[Sensory and muscular functions of the pelvic floor in women with endometriosis – cross-sectional study](#)

Archives of Gynecology and Obstetrics

[The impact of endometriosis on work ability in young Australian women](#)

ANZOG

[Transvenous occlusion of incompetent pelvic veins to treat chronic pelvic pain in women: A randomised controlled trial](#)

BJOG

Maternity/Obstetrics

[A case of massive fetal cardiac rhabdomyoma: ultrasound features and management](#)

The Journal of Maternal-Fetal & Neonatal Medicine

[A core outcome set for trials in miscarriage management and prevention: An international consensus development study](#)

BJOG

[A mixed-methods survey of perinatal mental health for Sri Lankan women in the UK](#)

British Journal of Midwifery

[A pilot study to compare propranolol and misoprostol versus misoprostol and placebo for induction of labor in primigravidae; a randomized, single-blinded, placebo-controlled trial](#)

BMC Pregnancy and Childbirth

[Alternative routes for tranexamic acid treatment in obstetric bleeding \(WOMAN-PharmacTXA trial\): a randomised trial and pharmacological study in caesarean section births](#)

BJOG

[Application of glycemic qualification rate based on fingerstick glucose monitoring in women with gestational diabetes mellitus](#)

The Journal of Maternal-Fetal & Neonatal Medicine

[ASPREE trial: effects of aspirin on mean arterial blood pressure and uterine artery pulsatility index trajectories in pregnancy](#)

Ultrasound in Obstetrics & Gynecology

[Association between gestational age at delivery and indicator-specific severe maternal morbidity](#)

The Journal of Maternal-Fetal & Neonatal Medicine

[Association between infant birthweight and pelvic floor muscle strength: a population-based cohort study](#)

BMC Pregnancy and Childbirth

[Autonomic function and inflammation in pregnant women participating in a randomized controlled study of Mindfulness Based Childbirth and Parenting](#)

BMC Pregnancy and Childbirth

[Barriers and enablers of pelvic floor rehabilitation behaviours in pregnant women with stress urinary incontinence: a qualitative analysis using the theoretical domains framework](#)

BMC Pregnancy and Childbirth

[Birth outcomes following pelvic ring injury: A retrospective study](#)

BJOG

[Breastfeeding Characteristics and Duration of Feeding Human Milk in Infants With Congenital Heart Disease](#)

Perinatal & Neonatal Nursing

[Busy day effect on adverse obstetric outcomes using a nationwide ecosystem approach: Cross-sectional register study of 601 247 hospital deliveries](#)

BJOG

[Can allostatic load in pregnancy explain the association between race and subsequent cardiovascular disease risk: A cohort study](#)

BJOG

[Comparison of pregnancy rates in antagonist cycles after luteal support with GnRH-agonist versus progesterone: prospective randomized study](#)

Archives of Gynecology and Obstetrics

[Co-occurrence of depression, anxiety, and perinatal posttraumatic stress in postpartum persons](#)

BMC Pregnancy and Childbirth

[Delayed versus immediate cord clamping in dichorionic twins <32 weeks: a retrospective study](#)

The Journal of Maternal-Fetal & Neonatal Medicine

[Development and early validation of questionnaires to assess system level factors affecting male partners' attendance at childbirth in LMICs](#)

BMC Pregnancy and Childbirth

[Development and validation of a screening questionnaire for early identification of pregnant women at risk for excessive gestational weight gain](#)

BMC Pregnancy and Childbirth

[Development of placental lesions after recovery from COVID-19 during pregnancy: case-control study](#)

BJOG

[Disparities in who is asked about their perinatal mental health: an analysis of cross-sectional data from consecutive national maternity surveys](#)

BMC Pregnancy and Childbirth

[Does structured obstetric management play a role in the delivery mode and neonatal outcome of twin pregnancies?](#)

Archives of Gynecology and Obstetrics

[Does treatment modality affect measures of arterial stiffness in women with gestational diabetes?](#)

Ultrasound in Obstetrics & Gynecology

[Ectopia cordis: prenatal diagnosis, perinatal outcomes, and postnatal follow-up of an international multicenter cohort case series](#)

The Journal of Maternal-Fetal & Neonatal Medicine

[Effect of different surgical routes on pregnancy outcome of history-indicated cervical cerclage](#)

Archives of Gynecology and Obstetrics

[Efficacy and safety of celecoxib for treatment of mild to moderate postpartum depression: a randomized, double-blind, placebo-controlled trial](#)

Archives of Gynecology and Obstetrics

[Efficacy of emergency cervical cerclage in twin pregnancies and factors affecting the clinical effects of emergency cerclage](#)

The Journal of Maternal-Fetal & Neonatal Medicine

[Evaluating the hemostatic effects of tranexamic acid in women with pre-eclampsia](#)

International Journal of Gynecology & Obstetrics

[Evaluation of fetal thymus size in maternal autoimmune diseases: systemic lupus erythematosus, Sjögren's syndrome and antiphospholipid antibody syndrome](#)

Archives of Gynecology and Obstetrics

[Fetal heart rate patterns and the incidence of adverse events after oral misoprostol administration for cervical ripening among low-risk pregnancies](#)

The Journal of Maternal-Fetal & Neonatal Medicine

[Gestational hypertensive disorders and blood pressure and childhood cardiac outcomes: A prospective cohort study](#)

BJOG

[High risk delivery checklists: Evaluating stress reduction and communication](#)

Journal of Neonatal Nursing

[Histologic chorioamnionitis in extremely preterm births, microbiological findings and infant outcome](#)

The Journal of Maternal-Fetal & Neonatal Medicine

[History of induced abortion and the risk of preterm birth: a retrospective cohort study](#)

The Journal of Maternal-Fetal & Neonatal Medicine

[Long-term adverse neurodevelopmental outcomes of discordant twins delivered at term: A nationwide population-based study](#)

BJOG

[Low lying placenta: natural course, clinical data, complications and a new model for early prediction of persistency](#)

The Journal of Maternal-Fetal & Neonatal Medicine

[Management and outcomes of pulmonary artery hypertension and Eisenmenger syndrome during pregnancy: a prospective observational cohort study](#)

BJOG

[Massive fetomaternal hemorrhage in a monochorionic-diamniotic twin pregnancy: a case report](#)

The Journal of Maternal-Fetal & Neonatal Medicine

[Maternal age is highly associated with non-chromosomal congenital anomalies: Analysis of a population-based case-control database](#)

BJOG

[Maternal and umbilical cord blood lactate for predicting perinatal death: a secondary analysis of data from a randomized controlled trial](#)

BMC Pediatrics

[Maternal outcomes of placental abruption with intrauterine fetal death and delivery routes: A nationwide observational study](#)

Acta Obstetrica et Gynecologica Scandinavica

[Oral and periodontal assessment at the first trimester of pregnancy: The PERISCOPE longitudinal study](#)

Acta Obstetrica et Gynecologica Scandinavica

[Oxidative stress and antioxidant status in threatened preterm labor](#)

Archives of Gynecology and Obstetrics

[Pathogens identified in the internal tissues and placentas of stillbirths: results from the prospective, observational PURPOSE study](#)

BJOG

[Performance of comprehensive first trimester fetal anatomy assessment](#)

Prenatal Diagnosis

[Perinatal outcomes and risk factors for epidural analgesia-associated intrapartum maternal fever: a retrospective study](#)

The Journal of Maternal-Fetal & Neonatal Medicine

[Persistent occiput posterior position: predictive factors of spontaneous rotation of the fetal head](#)

The Journal of Maternal-Fetal & Neonatal Medicine

[Persisting risk factors for preeclampsia among high-risk pregnancies already using prophylactic aspirin: a multi-country retrospective investigation](#)

The Journal of Maternal-Fetal & Neonatal Medicine

[Pharmacoepidemiology and costs of medications dispensed during pregnancy: A retrospective population-based study](#)

BJOG

[Pitfalls in the diagnostics of shoulder dystocia: an analysis based on the scrutiny of 2274 deliveries](#)

Archives of Gynecology and Obstetrics

[Postnatal genetic testing on cord blood for prenatally identified high-probability cases](#)

Prenatal Diagnosis

[PRECeDe Pilot: Prevention of neonatal respiratory distress with antenatal corticosteroids before elective caesarean section in women with diabetes – a feasibility randomised trial](#)

BJOG

[Precision of vacuum cup placement and its association with subgaleal hemorrhage and associated morbidity in term neonates](#)

Archives of Gynecology and Obstetrics

Pregnancy-associated stroke and the recurrence of stroke and other complications in subsequent pregnancies: Population-based retrospective cohort study
BJOG

Pregnancy loss in major fetal congenital heart disease: incidence, risk factors and timing
Ultrasound in Obstetrics & Gynecology

Pregnancy Nutrition Core Outcome Set (PRENCOS): A core outcome set development study
BJOG

Prenatal diagnosis with chromosome microarray analysis and pregnancy outcomes of fetuses with umbilical cord cysts
The Journal of Maternal-Fetal & Neonatal Medicine

Public health prevention in maternity programme: supporting the local system
British Journal of Midwifery

Reconsidering the effectiveness of low-dose aspirin in prevention of pre-eclampsia among otherwise low risk twin gestations: A historical cohort study
International Journal of Gynecology & Obstetrics

Risk factors for retained placenta in a first pregnancy—A clinical trial
International Journal of Gynecology & Obstetrics

Routine placental histopathology findings from women testing positive for SARS-CoV-2 during pregnancy: Retrospective cohort comparative study
BJOG

Skin-to-skin contact as a pain-relieving procedure for infants during heel lances
Journal of Neonatal Nursing

Spontaneous uterine venous plexus complicated with ovarian rupture in the third trimester of pregnancy: a case report
BMC Pregnancy and Childbirth

The association between uterine adenomyosis and adverse obstetric outcomes: A propensity score-matched analysis
Acta Obstetrica et Gynecologica Scandinavica

The efficacy of preoperative low-residue diet on postoperative ileus following cesarean section
The Journal of Maternal-Fetal & Neonatal Medicine

The impact of mode of delivery on parent-infant-bonding and the mediating role of birth experience: a comparison of mothers and fathers within the longitudinal cohort study DREAM
BMC Pregnancy and Childbirth

The prediction of hypertensive disorders by maternal hemodynamic assessment in the first trimester of pregnancy
The Journal of Maternal-Fetal & Neonatal Medicine

Third-trimester cervical length assessment for the prediction of spontaneous late preterm birth
The Journal of Maternal-Fetal & Neonatal Medicine

Unintended lower-segment hysterotomy extension at cesarean delivery and the risk for uterine rupture during a subsequent trial of labor
International Journal of Gynecology & Obstetrics

Unintended uterine extension at the time of cesarean delivery – risk factors and associated adverse maternal and neonatal outcomes
The Journal of Maternal-Fetal & Neonatal Medicine

Use of surgical glue versus suture to repair perineal tears: a randomised controlled trial
BMC Pregnancy and Childbirth

Virtual Reality Experience during Labour (VIREL); a qualitative study
BMC Pregnancy and Childbirth

Women's perception of fetal movements and perinatal outcomes: results of a prospective cohort study
The Journal of Maternal-Fetal & Neonatal Medicine

BMJ Best Practice

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 - **18 Apr 2023**Topic: [Overview of pregnancy complications](#)
 - **14 Apr 2023**Topic: [Premature ovarian failure](#)
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 - **14 Apr 2023**Topic: [Abnormal uterine bleeding](#)
 - **14 Apr 2023**Topic: [Uterine prolapse](#)
 - **13 Apr 2023**Topic: [Overview of sexually transmitted infections](#)
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UptoDate

[What's new in obstetrics and gynecology](#)

Vitamin B12 supplementation does not reduce preterm birth (April 2023)

Cohort studies have reported that lower maternal vitamin B12 levels (particularly gross deficiency) are associated with a higher risk of preterm birth, suggesting that supplementation may improve pregnancy outcome. However, in a placebo-controlled randomized trial of vitamin B12 supplementation during pregnancy conducted in Nepal in which most participants were at least marginally vitamin B12 deficient, supplementation did not improve gestational age at birth or birth weight [1]. For individuals with vitamin B12 deficiency, which is uncommon in the United States, vitamin B12 supplementation is indicated for maternal health. It is administered parenterally if malabsorption is the cause and orally to those with normal absorption. (See "[Nutrition in pregnancy: Dietary requirements and supplements](#)", section on '[Vitamin B12](#)'.)

Respiratory syncytial virus vaccination in pregnancy (April 2023)

Respiratory syncytial virus (RSV) is a major cause of morbidity and mortality in infants; however, no RSV vaccines are approved in the United States. In a phase 3 placebo-controlled randomized trial including almost 7000 pregnant people between 24 and 36 weeks of gestation, a single intramuscular injection of RSV prefusion F protein-based vaccine reduced the rate of severe RSV-associated lower respiratory tract illness in infants up to 180 days after birth [2]. The rate of nonsevere RSV-associated illness also trended lower. These data are consistent with other studies and suggest effective passive immunity in infants. The US Food and Drug Administration is currently reviewing an application for RSV vaccine approval. (See "[Immunizations during pregnancy](#)", section on '[Vaccines under investigation](#)'.)

Race-based differences in screening for substance use in pregnancy (April 2023)

Substance use disorders are an underdiagnosed problem with significant medical implications during pregnancy. In a study that used logistic regression models including race and history of substance use and adjusting for age and other factors, Black patients with a history of substance use had a higher predicted probability of undergoing urine toxicology testing at delivery than comparable White patients, but White patients had a higher predicted probability of a positive test result [15]. This study highlights the need for universal screening of pregnant people for substance use to avoid differential testing for a problem that is known to impact patients of all ages, races/ethnicities, and socioeconomic demographics. (See "[Substance use during pregnancy: Screening and prenatal care](#)", section on '[Concerns for bias](#)'.)

Prophylactic tranexamic acid at cesarean birth (April 2023)

Administration of [tranexamic acid](#) to patients having a postpartum hemorrhage reduces mortality due to bleeding, but a benefit from routine prophylactic administration at cesarean is uncertain. In a randomized trial including 11,000 patients undergoing cesarean birth at 31 hospitals, administration of tranexamic acid immediately after umbilical cord clamping slightly reduced rates of maternal death or transfusion, intraoperative blood loss >1 L, and intervention for bleeding complications compared with placebo, but the reductions were not statistically significant [16]. One UpToDate author administers prophylactic tranexamic acid before making the skin incision for cesarean, and others do not. (See "[Management of the third stage of labor: Prophylactic pharmacotherapy to minimize hemorrhage](#)", section on 'Effectiveness'.)

Hemolytic disease of the fetus and newborn due to anti-M (April 2023)

Hemolytic disease of the fetus and newborn (HDFN) due to maternal alloantibodies against the M antigen (anti-M) is usually mild, but severe HDFN can occur when the alloantibody is a high-titer IgG (or a mixture of IgM and IgG) that is active at 37°C. In a new series of 17 infants with HDFN due to anti-M, fetal or neonatal anemia was severe enough in 14 cases to warrant transfusion, even when maternal antibody titers were higher at 4°C than at 37°C [17]. The risk of low birthweight and premature birth was increased relative to infants with HDFN caused by antibodies against RhD and ABO antigens. This series is a reminder that severe fetal anemia can complicate pregnancies with anti-M. (See "[Management of non-RhD red blood cell alloantibodies during pregnancy](#)", section on 'MNS'.)

Preventing postpartum overdose (April 2023)

Overdose is a leading cause of pregnancy-related deaths in the year following delivery. In a population-based study of individuals with Medicaid insurance in the United States (2006 to 2013), those with opioid use disorder (OUD) had a high incidence of opioid overdose death compared with the general obstetric population (118 versus 5 per 100,000 deliveries); their all-cause postpartum death rate was also high (316 versus 51 per 100,000 deliveries) [18]. However, postpartum use of medication for OUD (MOUD) was associated with a 60 percent reduction in the odds of opioid overdose death. We follow patients with OUD closely and continue MOUD postpartum to support retention in treatment of OUD and prevent return to use. (See "[Overview of management of opioid use disorder during pregnancy](#)", section on 'Continue MOUD'.)

Surgical management of incomplete miscarriage (April 2023)

Hysteroscopic resection of retained intrauterine tissue after miscarriage has been proposed as an alternative to vacuum aspiration because it may preserve fertility better. However, a randomized trial comparing the two procedures in 563 patients found similar live birth rates and median times to conception for both procedures at two years' follow-up [28]. Hysteroscopic resection required additional equipment, took longer, and could not be completed in all cases. We continue to use vacuum aspiration to manage patients with retained products of conception. (See "[Pregnancy loss \(miscarriage\): Counseling and comparison of treatment options and discussion of related care](#)", section on 'Surgical management'.)

Online Resources

[BestBETs](#) - BETs bring the evidence one step closer to the bedside, by providing answers to very specific clinical problems, using the best available evidence.

[BNF](#) – British National Formulary

[Royal College of Midwives](#) – clinical practice and guidelines (members only access)

[The Royal Marsden Manual of Clinical Procedures](#) – available via your Athens login

Journals & table of contents alerts

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Archives of Gynecology and Obstetrics	BJOG : an International Journal of Obstetrics and Gynaecology
British Journal of Midwifery	European Journal of Obstetrics & Gynaecology
Midwifery	MIDRS
