

Obstetrics and Gynaecology

Evidence Update

April 2018 (Quarterly)



Respecting everyone
Embracing change
Recognising success
Working together
Our hospitals.



Training Calendar 2018

All sessions are one hour

April (12.00-13.00)

17th (Tue) **Statistics**

25th (Wed) **Literature Searching**

May (13.00-14.00)

3rd (Thu) **Critical Appraisal**

11th (Fri) **Statistics**

14th (Mon) **Literature Searching**

22nd (Tue) **Critical Appraisal**

30th (Wed) **Statistics**

Your Outreach Librarian – Helen Pullen

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Outreach: Your Outreach Librarian can help facilitate evidence-based practice for all in the team, as well as assisting with academic study and research. We also offer one-to-one or small group training in **literature searching, critical appraisal and medical statistics**. Get in touch: library@uhbristol.nhs.uk

Literature searching: We provide a literature searching service for any library member. For those embarking on their own research it is advisable to book some time with one of the librarians for a one-to-one session where we can guide you through the process of creating a well-focused literature research.

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Library Clinic

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May 2nd: **Canteen (Level 9, BRI) 12.00-14.00**

June 6th: **Terrace (Level 4, Education Centre) 12.00-14.00**

June 19th: **Welcome Centre, BRI 10.00-16.00**

July 3rd: **Welcome Centre, BRI 10.00-16.00**

July 4th: **Canteen (Level 9, BRI) 12.00-14.00**

August 8th: **Foyer, Education Centre 12.00-14.00**

August 29th: **Foyer, St Michael's Hospital 12.00-14.00**

September 5th: **Canteen (Level 9, BRI) 12.00-14.00**

September 11th: **Welcome Centre, BRI 10.00-16.00**

October 3rd: **Terrace (Level 4, Education Centre) 12.00-14.00**

November 7th: **Canteen (Level 9, BRI) 12.00-14.00**

December 5th: **Foyer, Education Centre 12.00-14.00**

December 11th: **Welcome Centre, BRI 10.00-16.00**

Latest Evidence



GYNAECOLOGY

[Antifibrinolytics for heavy menstrual bleeding](#)

Alison C Bryant-Smith, Anne Lethaby, Cindy Farquhar, Martha Hickey

Online Publication Date: April 2018

[Metabolomics for improving pregnancy outcomes in women undergoing assisted reproductive technologies](#)

Charalampos S Siristatidis, Eleni Sertedaki, Dennis Vaidakis, Christos Varounis, Marialena Trivella

Online Publication Date: March 2018

[Surgery for women with posterior compartment prolapse](#)

Alex Mowat, Declan Maher, Kaven Baessler, Corina Christmann-Schmid, Nir Haya, Christopher Maher

Online Publication Date: March 2018

[Application of seminal plasma to female genital tract prior to embryo transfer in assisted reproductive technology cycles \(IVF, ICSI and frozen embryo transfer\)](#)

Baris Ata, Ahmed M Abou-Setta, Ayse Seyhan, William Buckett

Online Publication Date: February 2018

[Non-steroidal anti-inflammatory agents to induce regression and prevent the progression of cervical intraepithelial neoplasia](#)

Shannon M Grabosch, Osman M Shariff, C. William Helm

Online Publication Date: February 2018

[Individualised gonadotropin dose selection using markers of ovarian reserve for women undergoing in vitro fertilisation plus intracytoplasmic sperm injection \(IVF/ICSI\)](#)

Sarah F Lensen, Jack Wilkinson, Jori A Leijdekkers, Antonio La Marca, Ben Willem J Mol, Jane Marjoribanks, Helen Torrance, Frank J Broekmans

Online Publication Date: February 2018

OBSTETRICS

[Massage, reflexology and other manual methods for pain management in labour](#)

Caroline A Smith, Kate M Levett, Carmel T Collins, Hannah G Dahlen, Carolyn C Ee, Machiko Suganuma

Online Publication Date: March 2018

[Relaxation techniques for pain management in labour](#)

Caroline A Smith, Kate M Levett, Carmel T Collins, Mike Armour, Hannah G Dahlen, Machiko Suganuma

Online Publication Date: March 2018

[Death audits and reviews for reducing maternal, perinatal and child mortality](#)

Merlin L Willcox, Brian D Nicholson, Jessica Price, Beth Stuart, Nia W Roberts, Helen Allott, Vincent Mubangizi, Alexandre Dumont, Anthony Harnden

Online Publication Date: March 2018

[Mefloquine for preventing malaria in pregnant women](#)

Raquel González, Clara Pons-Duran, Mireia Piqueras, John J Aponte, Feiko O ter Kuile, Clara Menéndez

Online Publication Date: March 2018

[Probiotics for treating women with gestational diabetes for improving maternal and fetal health and well-being](#)

Karaponi AM Okesene-Gafa, Julie Brown, Lesley McCowan, Caroline A Crowther

Online Publication Date: February 2018

[Antibiotics for treating gonorrhoea in pregnancy](#)

Gabriella Comunián-Carrasco, Guiomar E Peña-Martí, Arturo J Martí-Carvajal

Online Publication Date: February 2018

[Antifibrinolytic drugs for treating primary postpartum haemorrhage](#)

Haleema Shakur, Danielle Beaumont, Sue Pavord, Angele Gayet-Ageron, Katharine Ker, Hatem A Mousa

Online Publication Date: February 2018

[Planned birth at or near term for improving health outcomes for pregnant women with pre-existing diabetes and their infants](#)

Linda M Biesty, Aoife M Egan, Fidelma Dunne, Valerie Smith, Pauline Meskell, Eugene Dempsey, G Meabh Ni Bhuinneain, Declan Devane

Online Publication Date: February 2018

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PRENATAL OBSTETRICS

Impact of blood pressure on pregnancy loss (April 2018)

In a prospective study of over 1200 healthy women with a history of one to two pregnancy losses who were attempting to conceive, each 10 mmHg increase in preconception mean arterial and diastolic blood pressure was associated with an increase in pregnancy loss of 17 and 18 percent, respectively, in adjusted analysis [1]. Most women were normotensive and none were being treated for hypertension, although one-quarter met criteria for hypertension stage I by 2017 American College of Cardiology and the American Heart Association guidelines. Causality is unproven and it is not known whether interventions to reduce blood pressure in normotensive or hypertensive women will reduce pregnancy loss rates. (See

["Spontaneous abortion: Risk factors, etiology, clinical manifestations, and diagnostic evaluation", section on 'Other factors'.\)](#)

Newborn neurologic outcomes after maternal Zika virus infection (April 2018)

Data on newborn outcomes of maternal Zika virus infection continue to emerge. In a prospective cohort study from the French territories in the Americas including over 500 symptomatic pregnant women with confirmed Zika virus infection, severe neurologic birth defects consistent with congenital Zika syndrome were diagnosed in 6.9 percent of first-trimester infections, 1.2 percent of second-trimester infections, and 0.9 percent of third-trimester infections [2]. The occurrence of severe neurologic defects in third-trimester infection is a key finding as it suggests severe sequelae can occur after any trimester of maternal infection. (See ["Zika virus infection: Evaluation and management of pregnant women", section on 'Risk of vertical transmission and anomalies'.\)](#)

Cold/flu with fever and risk of birth defects (March 2018)

A large epidemiologic study (National Birth Defects Prevention Study, 1997-2011) reported an association between maternal report of cold or flu with fever in early pregnancy and birth defects, but no association in similar women without fever [3]. Fever may be a marker for more severe cold/flu or other differences between the groups, but a causal association cannot be excluded. We suggest use of [acetaminophen](#) for fever reduction to provide comfort and possibly reduce the risk of birth defects. (See ["Treatment of respiratory infections in pregnant women", section on 'The common cold'.\)](#)

Position statement on genome-wide sequencing for fetal diagnosis (March 2018)

The International Society for Prenatal Diagnosis, the Society for Maternal Fetal Medicine, and the Perinatal Quality Foundation have published a Joint Position Statement on the use of genome-wide sequencing for fetal diagnosis [4]. A key point is that routine prenatal sequencing as a diagnostic test is not currently supported due to insufficient validation data and limited knowledge about its benefits and pitfalls. However, sequencing may be performed on a case-by-case basis when a genetic disorder is suspected and sequencing can provide the confirmatory genetic diagnosis quickly and accurately. Fetal diagnostic sequencing is best done as a trio analysis (fetal and both parental samples are sequenced and analyzed together). We agree with the position statement. (See ["Prenatal genetic evaluation of the anomalous fetus", section on 'Whole exome sequencing'.\)](#)

Autism spectrum disorder not associated with frequency of prenatal ultrasound (March 2018)

Pregnancy-related risk factors for development of autism spectrum disorder (ASD) in

childhood is an active area of investigation. No studies have found an association between the frequency of prenatal ultrasound exposure and risk of ASD. In a recent retrospective case-control study, which compared prenatal ultrasound exposure in children with ASD, developmental delay, and typical development, those with ASD had fewer prenatal ultrasound examinations and shorter durations of ultrasound and Doppler exposure than children in the two control groups [5]. Mean mechanical and thermal indices were similar in the three groups. Although the ASD and developmental delay groups had greater mean ultrasonographic penetration than children with typical development, the significance of this finding is unclear. (See "[Basic principles and safety of diagnostic ultrasound in obstetrics and gynecology](#)", section on 'Effects in humans'.)

INTRAPARTUM AND POSTPARTUM OBSTETRICS

Maternal antiviral therapy and perinatal HBV transmission (March 2018)

To prevent perinatal transmission of hepatitis B virus (HBV), [hepatitis B immune globulin](#) and a first dose of hepatitis B vaccine within 12 hours of birth are recommended for infants born to mothers who are hepatitis B surface antigen (HBsAg)-positive. Additionally, maternal antiviral therapy for those with a high HBV viral load is supported by several prior studies and is often given. However, in a recent trial of approximately 300 HBsAg-positive women with a median viral load of 10^8 international units/mL, [tenofovir disoproxil fumarate](#) from 28 weeks of gestation to two months postpartum did not significantly reduce HBV transmission compared with placebo (0 versus 2 percent of infants by six months); all infants received hepatitis B immune globulin and vaccine approximately one hour after birth followed by four additional vaccine doses by six months [19]. Despite the lack of clear benefit in this trial, we continue to suggest maternal antiviral therapy for select women, in part because adherence to the infant immunization regimen used in this study is unlikely in real world settings. (See "[Hepatitis B and pregnancy](#)", section on 'Maternal antiviral therapy to prevent transmission'.)

Ambulatory blood pressure monitoring following a pregnancy with severe preeclampsia (February 2018)

Women with a history of preeclampsia with severe features are at high risk for hypertension following pregnancy. In a study of 200 such women monitored with 24-hour ambulatory blood pressure monitoring (ABPM) at one year postpartum, over 40 percent had hypertension (sustained, masked, or white-coat) with ABPM, and only 24 percent of these women would have been diagnosed by office measurement of blood pressure alone [20]. Although APBM has the potential to identify hypertension that would otherwise have been missed, possible barriers to its use include cost, availability, and limited insurance coverage in the United States. (See "[Management of hypertension in pregnant and postpartum](#)

[women", section on 'Long-term prognosis of women with hypertension during pregnancy'.\)](#)

OFFICE GYNECOLOGY

Oral estrogen-progestin contraceptives and breast cancer risk (March 2018)

Data on breast cancer risk with combined estrogen-progestin oral contraceptive use have been variable with some epidemiologic studies reporting no association, and others observing an increase in risk with current, but not past use. In a prospective cohort study of nearly 2 million women followed on average for 11 years, the relative risk of breast cancer in oral contraceptive (OC) users compared with never users was 1.19 [28]. However, the overall absolute increase in breast cancers was small, 13 per 100,000 person years (approximately 1 additional case per 7690 women per year). In women under age 35 years, the risk was only 2 per 100,000 person years (1 additional case per 50,000 women per year). This small risk needs to be balanced against some of the important benefits of OC use: contraception, and the reduction in endometrial and ovarian cancer risks that persist for at least 30 years. (See "[Risks and side effects associated with estrogen-progestin contraceptives", section on 'Breast cancer'.](#)")

Reintervention rate after placement of a sacral neuromodulation device (March 2018)

A retrospective analysis of data from a statewide claims database found that more than one in three patients underwent reintervention within five years after minimally invasive surgical placement of a sacral neuromodulation (SNM) device to treat overactive bladder (OAB) or other symptoms [29]. Reasons for reintervention included device malfunction and treatment failure. Although some trials of SNM for OAB have found symptom improvement rates of 90 percent and cure rates up to 50 percent, the rate of reintervention should be considered in selecting treatment options when noninvasive therapies do not achieve sufficient symptom reduction. (See "[Treatment of urgency incontinence/overactive bladder in women", section on 'Procedural and other therapies'.](#)")

GYNECOLOGIC SURGERY

Risk of occult malignancy at hysterectomy (April 2018)

Women planning hysterectomy for benign disease are counseled about the small risk of detecting cancer at the time of surgery. In the largest study to date of women undergoing hysterectomy without known or suspected cancer at the beginning of surgery, 1.4 percent had uterine cancer, 0.60 percent had cervical cancer, and 0.19 percent had ovarian cancer [33]. Women age 55 and older had a higher risk of malignancy than women ages 45 to 54 years. These data are useful in counseling patients before hysterectomy. (See "[Choosing a](#)

[route of hysterectomy for benign disease", section on 'Risk of occult malignancy'.\)](#)

Incidence of gender-affirming surgery among inpatients with transsexualism or gender identity disorder (March 2018)

In a study using data from the US National Inpatient Sample database, 11 percent of hospitalizations among patients with transsexualism or gender identity disorder involved gender-affirming surgery, and 84 percent of these individuals underwent genital gender-affirming surgical procedures, an increase from previous years [34]. Although more of these patients are now covered by Medicare or Medicaid, over half of those who underwent surgery were self-pay. These findings highlight the importance of assessing quality metrics such as treatment efficacy, patient satisfaction, complications, and reversal surgery, as well as ensuring proper clinical training of surgeons and other clinical providers caring for transgender individuals. (See ["Transgender surgery: Male to female", section on 'Overview of transition process'.\)](#)

Adverse outcomes associated with hysteroscopic sterilization (February 2018)

Concerns have been raised about the safety and efficacy of hysteroscopic sterilization. The largest study is a French national database study of over 100,000 women comparing hysteroscopic and laparoscopic sterilization [35]. Hysteroscopic sterilization was associated with a lower risk of perioperative complications, but higher three-year rates of device-related complications, sterilization failure (pregnancy, salpingectomy, or a second sterilization procedure), and subsequent gynecologic surgery. In contrast with previous findings of menstrual abnormalities and pelvic pain, no increase was found in abnormal uterine bleeding or analgesic prescriptions. This study adds to the data regarding adverse outcomes associated with hysteroscopic sterilization. (See ["Hysteroscopic sterilization", section on 'Complications'.\)](#)

GYNECOLOGIC ONCOLOGY

Heated intraperitoneal chemotherapy for treatment of unresectable ovarian cancer (January 2018)

Neoadjuvant chemotherapy (NACT) followed by interval cytoreduction and postoperative chemotherapy is an option in ovarian, fallopian tube, or peritoneal cancer (EOC) cases when optimal cytoreduction is not feasible. In a randomized trial of interval cytoreduction with or without the addition of heated intraperitoneal [cisplatin](#) therapy (HIPEC) in over 200 women with stage III EOC who had at least stable disease after three cycles of neoadjuvant chemotherapy, the addition of HIPEC lowered mortality (50 versus 62 percent) at a median follow-up of 4.7 years, increased median recurrence-free survival (14 versus 11 months) and

overall survival (46 versus 34 months), with similar rates of serious adverse events [39]. It is unclear whether the favorable effects of HIPEC were due to the additional dose of chemotherapy, the intraperitoneal route, or heated therapy. A limitation of HIPEC is that it requires specialized technical expertise. (See "[Neoadjuvant chemotherapy for newly diagnosed advanced ovarian cancer](#)", section on 'Role of heated intraperitoneal therapy'.)

REPRODUCTIVE ENDOCRINOLOGY

Impact of fresh versus frozen embryo transfer on live birth (January 2018)

For women undergoing in vitro fertilization (IVF), some experts have proposed freezing all embryos based on reports that anovulatory women with polycystic ovary syndrome (PCOS) have improved live birth rates in cycles using frozen-thawed rather than fresh embryos, but whether there is an advantage of frozen embryos in ovulatory women is uncertain. In the largest trial to date in over 2000 ovulatory women undergoing IVF, live birth rates were similar for both approaches, but frozen-thawed cycles resulted in less ovarian hyperstimulation [46]. These findings, along with other factors, should be considered when counseling ovulatory women about IVF outcomes but do not apply to anovulatory women. (See "[In vitro fertilization](#)", section on 'Pregnancy and live birth rates'.)

Levothyroxine not beneficial for euthyroid women with TPO antibodies who are undergoing IVF (January 2018)

An increased risk of adverse pregnancy outcomes, including early pregnancy loss, has been reported in euthyroid women with elevated thyroid peroxidase (TPO) antibody concentrations. Thyroid hormone replacement in such women who are undergoing assisted reproductive technologies (ART) does not appear to reduce the risk of early pregnancy loss. In a trial evaluating [levothyroxine](#) or no treatment in 600 euthyroid Chinese women with TPO antibodies who were undergoing in vitro fertilization with embryo transfer, there was no difference in the miscarriage or live birth rates [47]. For euthyroid pregnant women with TPO antibodies who are not undergoing ART, thyroid hormone treatment to prevent the development of hypothyroidism during pregnancy and reduce the risk of early pregnancy loss is controversial. (See "[Overview of thyroid disease in pregnancy](#)", section on 'Effect of T4 treatment'.)

Journal Tables of Contents

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Journal	Month	Volume	Issue
Obstetrics and Gynaecology	April 2018	131	4
British Journal of Obstetrics and Gynaecology	April 2018	125	5
American Journal of Obstetrics and Gynecology	April 2018	218	4

Key Papers

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Obstetrics

[Application of seminal plasma to female genital tract prior to embryo transfer in assisted reproductive technology cycles \(IVF, ICSI and frozen embryo transfer\).](#)

Cochrane Database Syst Rev

[Best practice perioperative strategies and surgical techniques for preventing caesarean section surgical site infections: a systematic review of reviews and meta-analyses.](#)

BJOG

[Obstetric Outcomes After Failed Hysteroscopic and Laparoscopic Sterilization Procedures.](#)

Obstet Gynecol

[Antifibrinolytic drugs for treating primary postpartum haemorrhage.](#)

Cochrane Database Syst Rev

[Computerised interpretation of the fetal heart rate during labour: a randomised controlled trial \(INFANT\).](#)

Health Technol Assess

[Long-term risks and benefits associated with cesarean delivery for mother, baby, and subsequent pregnancies: Systematic review and meta-analysis.](#)

PLoS Med

[Prophylactic negative-pressure wound therapy after cesarean is associated with reduced risk of surgical site infection: a systematic review and meta-analysis.](#)

Am J Obstet Gynecol

[Immediate Delivery Compared With Expectant Management in Late Preterm Prelabor Rupture of Membranes: An Individual Participant Data Meta-analysis.](#)

Obstet Gynecol

[A validated calculator to estimate risk of cesarean after an induction of labor with an unfavorable cervix.](#)

Am J Obstet Gynecol

[Physical activity, diet and other behavioural interventions for improving cognition and school achievement in children and adolescents with obesity or overweight.](#)

Cochrane Database Syst Rev

[Aspirin for the prevention of preterm and term preeclampsia: systematic review and metaanalysis.](#)

Am J Obstet Gynecol

Gynaecology

[Recurrence of vulval intraepithelial neoplasia following treatment with cidofovir or imiquimod: results from a multicentre, randomised, phase II trial \(RT3VIN\).](#)

BJOG

[Screening for Ovarian Cancer: Updated Evidence Report and Systematic Review for the US Preventive Services Task Force.](#)

JAMA

[Conventional Radiofrequency Thermocoagulation vs Pulsed Radiofrequency Neuromodulation of Ganglion Impar in Chronic Perineal Pain of Nononcological Origin.](#)

Pain Med

[Antecedents of Abnormally Invasive Placenta in Primiparous Women: Risk Associated With Gynecologic Procedures.](#)

Obstet Gynecol

[Non-steroidal anti-inflammatory agents to induce regression and prevent the progression of cervical intraepithelial neoplasia.](#)

Cochrane Database Syst Rev

[Utility of anesthetic block for endometrial ablation pain: a randomized controlled trial.](#)

Am J Obstet Gynecol

[Association of Pharmacologic Treatment of Urgency Urinary Incontinence With Sleep Quality and Daytime Sleepiness.](#)

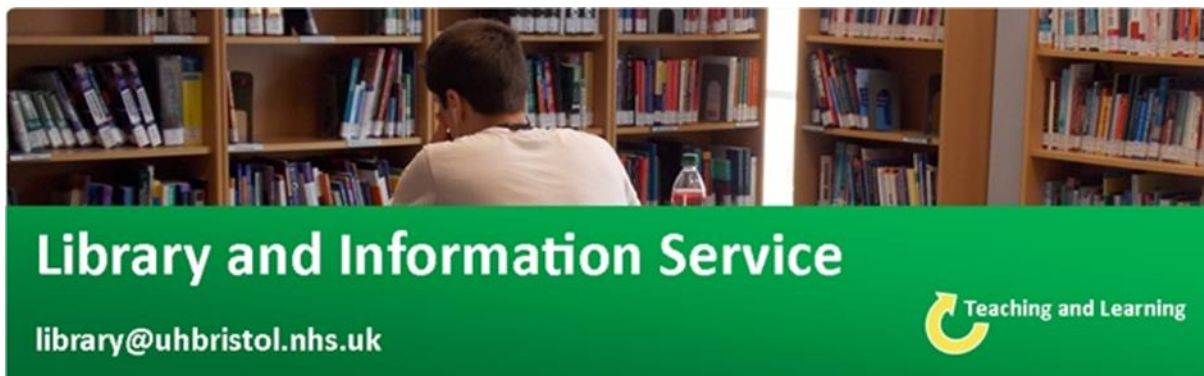
Obstet Gynecol

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