As a benefit to its members, the SOGC is pleased to present the latest edition of our Scientific Review. This unique product provides you with a fast and easy portal to recent publications in obstetrics and gynaecology, designed to help you keep up to date with the evidence-based research you need for your work. We also include trending articles in such areas as research methodology, social media, and technology. Please visit http://sogc.org/publications-resources/ to connect to all the tools the SOGC has to offer to help you stay current on the latest developments in the field.

The Scientific Review is available to view in two formats: arranged by category or as a single listing arranged alphabetically by author. We’re always interested in hearing what our members think about our products. To share your feedback about the Scientific Review, please send an email to SciRev@sogc.com.

Sincerely,

Dr. Diane Francoeur
President
The Society of Obstetricians and Gynaecologists of Canada

“This guideline updates and replaces NICE guideline CG45 (published February 2007).

It offers evidence-based advice on the recognition, assessment, care and treatment of mental health problems in women during pregnancy and the postnatal period (up to 1 year after childbirth), and in women who are planning a pregnancy. New recommendations have been added in all sections except the section on the organisation of services.”

Category: Obstetrics


“This guideline updates and replaces NICE guideline CG55 (published September 2007). It offers evidence-based advice on the care of women and their babies during labour and immediately after the birth. It covers healthy women with uncomplicated pregnancies entering labour at low risk of developing intrapartum complications."
New recommendations have been added in a number of areas, including choosing place of birth, care during the latent first stage of labour, transfer of care, fetal assessment and monitoring during labour (particularly cardiotocography compared with intermittent auscultation) and management of the third stage of labour."

1 Recommendations

1.1 Place of birth
1.2 Care throughout labour
1.3 Latent first stage of labour
1.4 Initial assessment
1.5 Ongoing assessment
1.6 General principles for transfer of care
1.7 Care in established labour
1.8 Pain relief in labour: non-regional
1.9 Pain relief in labour: regional analgesia
1.10 Monitoring during labour
1.11 Prelabour rupture of membranes at term
1.12 First stage of labour
1.13 Second stage of labour
1.14 Third stage of labour
1.15 Care of the newborn baby
1.16 Care of the woman after birth

See also BMJ summary:

**Category:** Obstetrics; Paediatrics


"This clinical guideline offers evidence-based advice on the care of women and their babies in the first 6-8 weeks after birth. Recommendations on co-sleeping and sudden infant death syndrome were updated in 2014 and cover the first year of an infant's life."

1 Recommendations

1.1 Planning the content and delivery of care
1.2 Maternal health
1.3 Infant feeding
1.4 Maintaining infant health

**Category:** Obstetrics; Paediatrics


**CONCLUSION:** "Maternal vitamin D deficiency early in pregnancy defined as 25(OH)D <30 nmol/L may be an independent risk factor for PE. The relevance of vitamin D supplementation for women of childbearing age should be explored as a strategy for reducing PE and for promoting a healthier pregnancy."


**Category:** Maternal Fetal Medicine; SOGC Members

CONCLUSION: "To build capacity for perinatal death audit, clear guidelines and a suitable classification system to assign cause of death must be developed. Existing classification systems may need to be adapted. Better data and more data are urgently needed."


Category: International Women's Health


CONCLUSION: "Study's findings demonstrate the need to improve the quality of maternal health services in public health facilities to encourage women to deliver under skilled care providers."


Category: International Women's Health; Obstetrics


CONCLUSION: "ITT meta-analysis underestimates the effect of receiving epidural analgesia in labour on caesarean section compared to IV meta-analysis."

Publisher's abstract: [http://www.jclinepi.com/article/S0895-4356(14)00455-7/abstract](http://www.jclinepi.com/article/S0895-4356(14)00455-7/abstract)

Category: Methodology; Obstetrics


RESULTS/CONCLUSION: "Women with MHV (N=4) required greater than weight-based dosing of enoxaparin (1.35mg/kg Q12H) to achieve targeted anti-Xa levels. Importantly, achieving target peak anti-Xa levels did not always ensure maintenance of minimum trough levels. VTE patients (N=12) did not require more enoxaparin (0.96mg/kg Q12H) than weight based dosing. MHV patients received more enoxaparin compared to VTE patients (P<0.001). No bleeding or clotting complications were associated with LMWH administration. In pregnant women with MHV at high risk of thromboembolism, LMWH dosing guided by trough and peak anti-Xa levels should be considered."


Category: Obstetrics; SOGC Members


CONCLUSION: "In this study population, the incidence of recurrent obstetric anal sphincter injuries was similar to that of primary obstetric anal sphincter injuries, and most patients went on to deliver vaginally for subsequent deliveries. The risk of recurrent obstetric anal sphincter injuries was doubled in those who delivered a large-for-gestational-age neonate and in those who had an instrumental delivery. LEVEL OF EVIDENCE: II"


**CONCLUSIONS:** “We could not demonstrate a significant difference in cognitive ability, school performance, or behavioral competence for children exposed to chemotherapy in utero compared with non-exposed controls. The majority of these children scored within normal limits on all developmental measures. Premature birth was more prevalent in the chemotherapy exposed group yet did not predict developmental outcome. Older children in the sample demonstrated higher rates of internalizing behavior problems.”


**Extract:** [http://www.bmj.com/content/349/bmj.g7197](http://www.bmj.com/content/349/bmj.g7197)

“…From next year our clinical education articles will be authored by experts without financial ties to industry (box). By industry we mean companies producing drugs, devices, or tests; medical education companies; or other companies with an interest in the topic of the article. We are phasing in this policy to start with editorials, clinical reviews, and most practice series. We hope that by the end of 2016, this will have extended to the rest of our education section: our specialist state of the art reviews and diagnostics and therapeutics series.”


“…It is concluded that if you wish to keep your false discovery rate below 5%, you need to use a three-sigma rule, or to insist on p<0.001. And never use the word ‘significant’.”

**Category:** Methodology


**INTERPRETATION:** “These results show that tamoxifen offers a very long period of protection after treatment cessation, and thus substantially improves the benefit-to-harm ratio of the drug for breast cancer prevention.”


**Category:** Breast Disease; Oncology


**CONCLUSIONS:** “Our results support the impact of SLN biopsy on surgical management and indications for adjuvant therapies. Further studies are required to assess the clinical impact of the SLN biopsy in early stage EC.”
CONCLUSION: “Improving adolescent health and preventing adolescent pregnancy; and promotion of birth spacing through increasing correct and consistent use of effective contraception are fundamental to preconception care. Promoting reproductive planning on a wider scale is closely interlinked with the reliable provision of effective contraception, however, innovative strategies will need to be devised, or existing strategies such as community-based health workers and peer educators may be expanded, to encourage girls and women to plan their families.”

See http://www.healthevidence.org/default.aspx for Health Evidence quality assessment and article details (available with free registration)


Category: Contraception


CONCLUSION: “IPI length is a significant contributor to neonatal morbidity, independent of gestational age at birth. Counseling women to plan an optimal amount of time between pregnancies is important for newborn health.”


Category: Maternal Fetal Medicine; Paediatrics


THE BOTTOM LINE

“The care that a woman receives during labour can affect the woman herself (physically and emotionally) and the health of her baby in the short and longer term

Maternity services should provide a model of care that supports one-to-one care in labour

Low risk mothers and babies do not benefit from birth in hospital obstetric units or from many previously "routine" but unindicated labour interventions

Clinicians need to be familiar with the evidence and able to talk non-judgmentally to women about their choices”


Category: Obstetrics; Paediatrics

“… A unique feature of these applications is the ability to measure oxygen saturation with a pulse oximeter connected to a smartphone (Phone Oximeter). The mobile health application development process, including challenges encountered and solutions are described.”


Category: Maternal Fetal Medicine; SOGC Members; Technology


CONCLUSION: “None of the tools analyzed enables the structured and comprehensive assessment of the content of guideline recommendations with special regard to their reliability and validity. All tools contribute towards the judicious use of evidence syntheses by supporting their systematic development or assessment. However, further progress is needed, particularly with regard to the assessment of content quality. This includes comprehensive operationalization and documentation of the assessment process to ensure reliability and validity, and therefore to enable the effective use of trustworthy guidelines in the health care system.”


Category: Methodology


CONCLUSIONS: “There is currently limited evidence to suggest that exercise can be used to limit maternal gestational weight gain.”


Category: Obstetrics


CONCLUSION: “Most obstetricians are skeptical about focused prenatal care and have not embraced this model owing to personal, institutional, and sociocultural factors.”


Category: International Women's Health; Obstetrics


CONCLUSION: “Less than 15% of apps found were considered potentially useful to ob-gyns. Thus, the obstetrics and gynecology community is in need of an organized effort to identify, review, and determine the accuracy of apps that can potentially improve the performance of health care providers and lead to better patient outcomes. We propose the formation of a committee to guide in this important task. LEVEL OF EVIDENCE: III”


Category: Gynaecology; Obstetrics; Technology

**CONCLUSIONS:** “Migrant women of refugee background from different African regions appear to be at greater risk of specific adverse pregnancy outcomes compared to migrant women without a refugee background. Awareness of differing risks and health needs would assist provision of appropriate pregnancy care to improve the health of African women and their babies.”


*Category:* Obstetrics; Social Sexual


**CONCLUSIONS:** “Existing international HDP CPGs have areas of consistency with which clinicians and researchers can work to develop auditable standards, and areas of inconsistency that should be addressed by future research.”


*Category:* Maternal Fetal Medicine; Methodology; SOGC Members


**CONCLUSIONS:** “Results show (1) four OSCE stations evaluating socio-cultural dimensions of PS achieved variation in scores and (2) performance on this OSCE can be evaluated with high reliability, suggesting a single assessor per station would be sufficient. Differences between nursing and medical student performance are interesting; however, it is unclear what factors explain these differences.”


*Category:* Education; Patient Safety; Social Sexual


**CONCLUSION(S):** “Less than half of the analyzed peer-reviewed journals request the authors to use reporting guidelines. Nevertheless, among the top fertility and gynecology journals, reporting guidelines are widely mentioned. Overall, accomplishment of CONSORT items was suboptimal. Editorial boards, reviewers, and authors should join efforts to improve the quality of reporting.”


*Category:* Methodology; Reproductive Endocrinology and Infertility


**CONCLUSIONS:** “The metamethod exposed missed opportunities for using the dialogical character of social
media as well as a lack of attention to the unique ethical issues inherent in operating in a virtual community where social boundaries and issues of public and private are ambiguous. This suggests the need for more self-conscious and ethical research practices when using social media as a data source. Given the relative newness of virtual communities, researchers and ethics review boards must work together to develop expertise in evaluating the design of studies undertaken with virtual communities. We recommend that the principles of concern for welfare, respect for person, and justice to be applied in research using social media.

N.B. Highly accessed


Category: Ethics; Gynaecology; Infectious Disease; Methodology; Technology


CONCLUSION: “HIV testing can reduce the number of undiagnosed cases in Canada. Future research should focus on testing coverage in certain populations, and on the extent to which populations engage in regular testing.”


Category: Aboriginal; Infectious Disease


“… The authors propose that a modeling study is most useful when strong primary evidence is available to inform the model but critical gaps remain between the evidence and the questions that the guideline group must address. In these cases, model results have a place alongside the findings of systematic reviews to inform health care practice and policy.”


Category: Methodology


CONCLUSION: “There are powerful, unresolved healing issues in Inuit communities. The traumatic experiences of the settlement and residential school era continue to have an impact on present-day family relationships. To support parent-child dialogue on sexual health and relationships, parents identified a need to repair relationships between youth and elders, and to provide culturally sensitive support to parents to heal from trauma.”


Category: Aboriginal; Social Sexual


CONCLUSION: “Supplementation with FA significantly reduces the risk of SGA at birth but only if commenced preconceptually independent of other risk factors.”

**CONCLUSIONS AND RELEVANCE:** “The majority of participants overestimated intervention benefit and underestimated harm. Clinicians should discuss accurate and balanced information about intervention benefits and harms with patients, providing the opportunity to develop realistic expectations and make informed decisions.”


**CONCLUSIONS:** “Maternal overweight and obesity are associated with increased risks of infant mortality due to increased mortality risk in term births and an increased prevalence of preterm births. Maternal overweight and obesity may be an important preventable risk factor for infant mortality in many countries.”


**CONCLUSIONS:** “This study suggests that health professionals have a limited understanding of health literacy and of the consequences of low health literacy for their Indigenous patients. This lack of understanding combined with the perceived barriers to improving health literacy limit health professionals inverted question mark ability to improve their Indigenous patients inverted question mark health literacy skills and may limit patients inverted question mark capacity to improve understanding of their illness and instructions on how to manage their health condition/s.”


**CONCLUSION:** “Preconception counseling should be offered to women of reproductive age as soon as they test HIV-positive, and conversely women of reproductive age should be screened with their partners before pregnancy. Risk assessment, screening, and treatment for specific infections should be a component of preconception care because there is convincing evidence that treatment of these infections before pregnancy prevents neonatal infections.”

See [http://www.healthevidence.org/default.aspx](http://www.healthevidence.org/default.aspx) for Health Evidence quality assessment and article details (available with free registration)

   “... Use of text messages without any other modes of communication could be a key to population-level dissemination and wider uptake of health promotion messages. However, in the rush to utilize new technologies and in the brevity of 160 characters, it should not be forgotten that quality, rigour, and careful development remain essential in any health promotion practice.”


   **AUTHORS’ CONCLUSIONS:** “We considered the quality of evidence to be very low. The studies had limitations in design, analysis, or reporting. Three did not adjust for potential confounding and only two had sufficient information on intervention fidelity. Outcomes were self reported and definitions varied for contraceptive use. All studies had adequate follow-up periods but most had high losses, as often occurs in contraception studies.”


   “… Findings suggest the need for continuing research on social networks and maternal health, particularly through the examination of the range of social mechanisms through which networks may influence health behaviors and knowledge, and the analysis of a larger variety of reproductive outcomes.”


**KEY MESSAGES**

   “Most patients who have cancer diagnosed after the onset of symptoms are referred after one or two GP consultations (80%), but a substantial minority (20%) have three or more consultations

   Multiple GP consultations prolong diagnostic intervals and may affect clinical outcomes and care experience

   The proportion of patients who have multiple consultations varies by cancer site, consistent with variation in each cancer’s symptom signature, with some cancers being harder to suspect than others

   Diagnostic difficulty and the need for investigations in primary care could contribute substantiably to the risk of multiple consultations

   Diagnosis may be swifter if facilitated by decision support interventions, better interactions between generalists and specialists, and easier access to diagnostics
Policy initiatives focusing solely on professional performance are unlikely to be effective”


Category: Oncology


CONCLUSION: “Women attempting TOLAC who require repeat cesarean for NRFS are at increased risk of uterine rupture and uterine dehiscence.”


Category: Obstetrics


AUTHORS’ CONCLUSIONS: “The quality of the four included trials varied as did the risk of bias and the quality of the evidence using GRADE was very low. Vaginal chlorhexidine was not associated with reductions in any of the primary outcomes of early-onset GBS disease (sepsis and/or meningitis) or GBS pneumonia. Vaginal chlorhexidine may reduce GBS colonization of neonates. The intervention was associated with an increased risk of maternal mild adverse effects. The review currently does not support the use of vaginal disinfection with chlorhexidine in labour for preventing early-onset disease. Results should be interpreted with caution as the methodological quality of the studies was poor. As early-onset GBS disease is a rare condition trials with very large sample sizes are needed to assess the effectiveness of vaginal chlorhexidine to reduce its occurrence. In the era of intrapartum antibiotic prophylaxis, such trials may be difficult to justify especially in developed countries.”

See [http://plus.mcmaster.ca/evidenceupdates/](http://plus.mcmaster.ca/evidenceupdates/) for McMaster Online Rating of Evidence (MORE) ratings and comments (available with free registration)


Category: Infectious Disease; Obstetrics; Paediatrics


CONCLUSIONS: “Previous positive associations between exposure to antibiotics in fetal and early life and subsequent childhood asthma could have been caused by confounding by shared familial factors, in addition to confounding by respiratory infections.”

See [http://plus.mcmaster.ca/evidenceupdates/](http://plus.mcmaster.ca/evidenceupdates/) for McMaster Online Rating of Evidence (MORE) ratings and comments (available with free registration)


Category: Maternal Fetal Medicine; Paediatrics

CONCLUSION: “The audit cycle and registered midwife interprofessional learning for SBAs led to a significant improvement in safe practice for the fetus with nuchal cord. The authors would encourage this type of learning in organizations with birth facilities on the Thai-Burmese border and in other similar resource limited settings with SBAs.”


Category: Education; International Women's Health; Obstetrics


CONCLUSION “Our prospective study demonstrates that noninvasive prenatal analysis of cell-free deoxyribonucleic acid from maternal plasma is an accurate advanced screening test with extremely high sensitivity and specificity for trisomy 21 (>99%) but with less sensitivity for trisomies 18 and 13. Despite high sensitivity, there was modest positive predictive value for the small number of common sex chromosome aneuploidies because of their very low prevalence rate.”

See http://plus.mcmaster.ca/evidenceupdates/ for McMaster Online Rating of Evidence (MORE) ratings and comments (available with free registration)


Category: Genetics; Obstetrics


CONCLUSIONS: “NFCC of physicians may have an important impact on practice. It is possible that increased training during residency or medical school could counteract the detrimental effects of NFCC, and steps can be taken through increased use of electronic reminder systems, to orient physicians to the appropriate questions to ask patients.”


Category: Education; Gynaecology; Obstetrics


CONCLUSION: “In Australia, men are more likely than women to report exclusive same-sex attraction and experience, although women are more likely than men to report any non-heterosexual identity, experience and attraction. Whether this is a feature of the plasticity of female sexuality or due to lesser stigma than for men is unknown.”


Category: Social Sexual

**CONCLUSIONS:** “Our study demonstrates that CHOs can successfully be trained as midwives and deployed to provide skilled delivery services at the doorsteps of rural households. The integration of the skilled delivery program with the CHPS program appears to be an effective model for improving access to skilled birth attendance in rural communities of the UER of Ghana.”


Category: International Women's Health; Obstetrics


**CONCLUSION:** “Outpatient cervical ripening with vaginal isosorbide mononitrate for prolonged pregnancy in nulliparous women does not reduce cesarean delivery rate. LEVEL OF EVIDENCE: I”


Category: Obstetrics


**INTERPRETATION:** “We present strong evidence that HPV vaccination does not have any significant effect on clinical indicators of sexual behaviour among adolescent girls. These results suggest that concerns over increased promiscuity following HPV vaccination are unwarranted and should not deter from vaccinating at a young age.”


Category: Gynaecology; Infectious Disease; Social Sexual


**CONCLUSIONS:** “Exaggeration in news is strongly associated with exaggeration in press releases. Improving the accuracy of academic press releases could represent a key opportunity for reducing misleading health related news.”


Category: Education; Methodology

51. Tso LO, Costello MF, Albuquerque LE, Andriolo RB, Macedo CR. Metformin treatment before and during IVF or ICSI in women with polycystic ovary syndrome. *Cochrane Database Syst Rev* 2014;11:CD006105.

**AUTHORS’ CONCLUSIONS:** “This review found no conclusive evidence that metformin treatment before or during ART cycles improved live birth rates in women with PCOS. However, the use of this insulin-sensitising agent increased clinical pregnancy rates and decreased the risk of OHSS.”

See [http://plus.mcmaster.ca/evidenceupdates/](http://plus.mcmaster.ca/evidenceupdates/) for McMaster Online Rating of Evidence (MORE) ratings and comments (available with free registration)

CONCLUSIONS: “Concurrent evaluation of the absolute effects on cancer, CVD and major gastrointestinal bleeding showed that alternate-day use of low-dose aspirin is ineffective or harmful in the majority of women in primary prevention. Selective treatment of women >=65 years with aspirin may improve net benefit.”


CONCLUSIONS: “Lifestyle intervention in obese pregnant women resulted in attenuation of the physiologic pregnancy-induced insulin resistance. Despite restricted gestational weight gain, there were no changes in glucose or lipid metabolism between the groups.”

See http://plus.mcmaster.ca/evidenceupdates/ for McMaster Online Rating of Evidence (MORE) ratings and comments (available with free registration)


First page preview: http://jama.jamanetwork.com/article.aspx?articleID=1983662

MAJOR RECOMMENDATIONS: “Screening for cervical cancer should begin at 21 years of age, regardless of sexual behaviors and risk factors. For women 21-29 years old, cervical cytology alone should be performed every 3 years. For women 30-65 years old, co-testing with cervical cytology and human papillomavirus (HPV) testing should be performed every 5 years; an alternative screening method is cytology alone every 3 years. Screening should occur more frequently in women who have established risk factors for cervical cancer (including HIV infection, immunocompromised status, exposure to diethylstilbestrol in utero, and history of cervical intraepithelial neoplasia [CIN] 2, CIN 3, or cancer). Screening should stop at 65 years, as long as there are adequate negative results (3 consecutive negative cytology or 2 consecutive negative co-test results in prior 10 years with most recent in past 5 years) and no history of CIN 2 or higher. Cervical cytology may be collected via liquid-based or conventional Pap smears. Screening should not be performed with HPV testing alone. If co-testing results show atypical squamous cells of undetermined significance (ASCUS) cytology and negative HPV, women should continue routine screening according to their age. If co-testing results show negative cytology and positive HPV, women may repeat co-testing in 12 months or perform HPV genotype-specific testing. Screening recommendations remain the same irrespective of whether women received the HPV vaccine.”

“Journals and institutions have important complementary roles to play in cases of suspected research and publication misconduct. Journals should take responsibility for everything they publish and should alert institutions to cases of possible serious misconduct but should not attempt to investigate such cases. Institutions should take responsibility for their researchers and for investigating cases of possible misconduct and for ensuring journals are informed if they have published unreliable or misleading articles so that these can be retracted or corrected. Journals and institutions should have policies in place for handling such cases and these policies should respect their different roles.”


Category: Ethics


CONCLUSIONS AND RELEVANCE: “Preeclampsia, particularly severe disease, is associated with ASD and DD. Faulty placentation manifests in the mother as preeclampsia with vascular damage, enhanced systemic inflammation, and insulin resistance; in the placenta as oxygen and nutrient transfer restriction and oxidative stress; and in the fetus as growth restriction and progressive hypoxemia. All are potential mechanisms for neurodevelopmental compromise.”


Category: Genetics; Maternal Fetal Medicine; Paediatrics


CONCLUSION: “Although pelvic floor muscle training led to a significantly greater improvement in PFDI-20 score, the difference between the groups was below the presumed level of clinical relevance (15 points). Nevertheless, 57% of the participants in the intervention group reported an improvement of overall symptoms. More studies are needed to identify factors related to success of pelvic floor muscle training and to investigate long term effects.”

See also linked data supplements (appendices)


Category: Gynaecology


“... Currently, the appropriate use of vaccination and antiviral medications is the best line of defense against influenza and its sequelae among pregnant women, and strategies to increase acceptance are crucial. This article will review the importance of influenza in pregnancy, and discuss vaccination and antiviral medications for pregnant women.”


Category: Infectious Disease; Maternal Fetal Medicine; SOGC Members