

Contraception Consensus: Updated Guidance during Pandemics and Periods of Social Disruption

Amanda Black, Dustin Costescu, Edith Guilbert, Sheila Dunn, Wendy V. Norman, Konia Trouton, Nicole Todd, Marie Soleil Wagner, Ashley Waddington, Anca Matei, William Fisher, Megan Schneiderman, Michelle Chan, Unjali Malhotra, Pallavi Sriram, Jennifer Blake.

Original: April 18th, 2020

Revised and Reaffirmed: November 9th, 2021

Introduction

The COVID-19 pandemic is a public health crisis with wide reaching health care implications due to illnesses from the disease itself, social and physical distancing restrictions, and the deferral or indefinite postponement of non-urgent clinical care and procedures. As physical and social distancing measures have been implemented to curb the spread of COVID-19, healthcare has been upended with the deferral or cancellation of in-person visits and health care providers have had to rapidly adapt their clinical practice. During this time, drug production sites and supply chains have also been disrupted. Consequently, Canadian people and couples who want to avoid a pregancy at this time are at increased risk of developing an unmet need for family planning due to lack of access to contraceptive care or methods. Compounding this, social isolation may increase unintended pregnancy through exposure to unprotected intercourse, reproductive coercion, and intimate personal violence.

Ideally, contraception provision would be practised in accordance with the Canadian Contraception Consensus guidelines, including recommendations for screening, duration of use, follow-up assessments, and the provision of long-acting reversible contraception (LARC) methods as first-line contraception methods. During pandemic situations, provision of family planning services must be adapted in an evidence-based fashion. This document provides interim guidance to affirm best practices and provide expert consensus on strategies to maintain contraceptive access during the COVID-19 pandemic or other periods of major social disruption.

Recommendations and Summary Statements

1. The unmet need for contraception increases during periods of social disruption, including pandemics. Health care providers should facilitate continued access to contraception during this time.

Access to safe, voluntary family planning is a human right.^{1, 2} During social disruptions, including wartime conflict and pandemics, there is an increased and unmet need for contraception, leading to increased rates of unintended pregnancy and its associated outcomes.^{3, 4} Individuals may lack access to contraception and thus have unprotected intercourse as well as be at increased risk of intimate partner violence, reproductive coercion, and unwanted or unplanned intercourse.

It is essential to have ongoing access to a choice of effective contraceptives through the provision of information, counselling, and services (including emergency contraception).⁵ Given the elevated risk of adverse outcomes of pregnancy, and the humanitarian need to ensure access to birth control, the UNFPA considers access to contraception "life-saving" during a pandemic.⁵ Healthcare providers should facilitate ongoing access to contraception, including offering virtual visits to initiate, improve, and continue contraceptive methods.

2. During the COVID-19 pandemic, contraceptive care may be offered virtually (telephone encounter, video encounter) or in person depending on the needs of the individual and in line with other health authority recommendations

To facilitate access to contraception while respecting physical and social distancing guidance, contraception counselling can be performed virtually to determine acceptable contraceptive options for an individual patient. Some contraceptive methods can be initiated without the need for an in-person assessment, including barrier methods, the POP, DMPA, and in some instances combined hormonal contraception (in the absence of contraindications). Initiation of other methods, such as long acting reversible contraceptives (LARC), may need to be deferred if the clinical resources for insertion are not readily available, the patient has known or suspected COVID-19 infection, or is in a high risk category for COVID-19 infection.

3. Long-Acting Reversible Contraception (LARC) provides reliable contraception that is resistant to fluctuations in healthcare access during a pandemic. LARC placement is an essential medical service and women who would benefit from a LARC method should be able to access placement or insertion appointments.

In Canada, intrauterine contraception (IUC) is the only LARC method available at this time. Women may have had a contraceptive implant inserted in another country but the single rod etonogestrel implant is not currently available in Canada. IUCs include levonorgestrel intrauterine systems (LNG-IUS) and copper intrauterine devices (Cu-IUD). IUCs provide effective reversible contraception for up to (and in some cases beyond) 5 years. LARC methods are the most effective way to prevent unintended pregnancy but it may not be possible for all clinicians to maintain access to IUC placement or implant insertion (when available) during a pandemic or period of social disruption.

Health care providers who currently provide IUC care are encouraged to continue offering this service if feasible. Clinics should follow local public health guidelines to screen patients prior to appointments, have access to appropriate personal protective equipment (PPE), wash and disinfect clinical areas as required, and adhere to scrupulous hand-washing protocols. Health care providers should have a robust system for assessing and ensuring follow-up for patients they are able to see. If IUC placement is not possible during the pandemic, contraceptives that can be self-administered should be offered as a bridge to

delayed IUC insertion. A short-acting reversible contraceptive (SARC) can be initiated immediately in the absence of contraindications to method use.

Health care providers should make particular efforts to maintain IUC access (through provision or referral) for patients at higher risk of unintended pregnancy and its complications, including those with a history of unintended pregnancy, those at risk of reproductive coercion or intimate partner violence, those with contraindications to estrogencontaining contraception, and patients for whom a short-acting contraceptive method (including barriers) is contraindicated or unlikely to provide reliable contraception.

4. Intrauterine contraception (IUC) may be safely continued beyond its approved duration of use. Appointments for IUC removal or replacement can be deferred up to 12 months, depending on the specific device and duration of use.

Routine IUC replacements and removals should be postponed if possible and IUC users should be counselled on the safety and effectiveness of extended IUC use. Extended use of an IUC is safe beyond the approved duration of use, however there may be small effects on effectiveness. Although each device is approved for certain durations of use, most are effective for longer than the manufacturers' recommendations^{6, 7} and immediate replacement at the end of this time period is not necessary.

There is good evidence to support exended use of the LNG-IUS 52 mg (Mirena®) for up to 7 years in women who are \geq 25 years old at the time of insertion. There is limited experience with extended use of the LNG-IUS 13.5 mg (Jaydess®) and the LNG-IUS 19.5 mg (Kyleena®). Although the risk of pregnancy is likely to be small, women using the 13.5 mg and 19.5 mg LNG-IUS's should be advised to use a second method of contraception, such as barrier methods, POP, or CHC (if no contraindications) once the approved duration of use has passed. 14

Most copper IUDs are effective for longer than their approved duration of use. Although the product monograph indicates a duration of use of 30 months for certain Cu-IUDs, evidence from clinical trials indicates that these may be used for up to 5 years. There is good evidence to support the use of copper IUDs with 380mm² of copper for at least 12 years, A, B, 12, 16 and likely until menopause if it is inserted over the age of 35. For those 5-year copper IUDs with less than 380mm² of copper, there is likely effectiveness beyond five years, however a second method of contraception may be beneficial. POP and CHCs (if no contraindications exist) can be initiated with an IUD or IUS in situ until a removal appointment can be arranged. 14

Given the extended duration of effectiveness for many IUCs, patients who require initial IUC placement should be prioritized over those requiring IUC replacements during periods of social disruption.

5. Progestin implants may be safely used beyond the indicated duration of use. Patients relying on a single-rod etonogestrel implant for contraception can defer replacement or removal for at least 12 months.

The etonogestrel subdermal implant is approved for three years of use. There is reliable evidence that etonogestrel implants remain effective beyond three years with studies showing excellent effectiveness at 4 and 5 years.^{17 7, 13, 18} If a patient wishes to continue using an etonogestel implant, appointment for removal or replacement (once available) can be deferred. Although etonogestrel serum levels may still be above the minimum level required for ovulation inhibition beyond five years, women who have had the implant for more than five years should be advised to use another method of contraception due to potential variation among women.¹⁹

6. Progestin-only contraception, including progestin-only pills (POPs) and depot medroxyprogesterone acetate (DMPA), may be safely initiated and continued without an in-person assessment.

Progestin-only contraception is effective and safe for the vast majority of women. When taken within the appropriate 3-hour time window, the progestin-only pill has similar efficacy to combined hormonal contraceptives. There are very few contraindications to the use of progestin-only contraception; these include current or recent progesterone-receptor positive breast cancer, severe liver cirrhosis, and hepatic adenoma (benign or malignant).²⁰ A virtual encounter may be used in place of an in-person assessment to initiate progestin-only contraceptives. Progestin-only contraception can be continued (re-prescribed) without a physical examination. Both DMPA and the POP can be initiated at any time during a woman's menstrual cycle. Back-up contraception should be used for at least 7 days after DMPA initiation or at least 48 hours after POP initiation (POP).²⁰

7. DMPA can be administered every 14 weeks by any healthcare provider trained to provide intramuscular (IM) injections.

In Canada, DMPA is approved and available as a 150 mg dose given as an intramuscular (IM) injection every 3 months (every 12 to 13 weeks), usually in an office setting. The 104 mg DMPA subcutaneous (sc) formulation is not available in Canada. DMPA IM maintains its effectiveness up to 14 weeks after the last injection. ^{20, 21, 22} Women may not be able to readily access their regular health care provider's office to receive their DMPA injection thus limiting contraceptive use and choice. Health care providers who did not initally prescribe DMPA may be asked to perform the injection. Regulatory bodies should consider removing barriers and allowing allied health professionals already trained in the provision of IM injections, such as pharmacists and midwives, to provide intramuscular DMPA injections thereby improving access. There should be no limit on the duration of DMPA use among women of reproductive

age who are otherwise eligible to use this method.²⁰

8. It is reasonable to initiate estrogen-containing contraception without a blood pressure assessment in women who are otherwise at low risk of cardiovascular disease and have no contraindications to the use of combined hormonal contraception (CHC). A blood pressure should be assessed as soon as it is clinically feasible.

Estrogen-containing contraception may be continued and the prescription refilled without a blood pressure assessment if the woman has not developed any contraindications or adverse events during its use. A follow-up blood pressure should be obtained when feasible.

In healthy women < 35 years old with no other cardiovascular risk factors, the risk of occult hypertension is low. While a blood pressure assessment is recommended prior to initiating estrogen-containing pills, patches, or rings, 23, 24 it can be deferred during a pandemic provided that the patient is otherwise healthy and has no contraindications to the use of combined hormonal contraception (CHC). If a patient has a home blood-pressure cuff, or a close contact who can perform a blood pressure, this can replace an in-office reading. A documented blood pressure within the past year is a sufficient screen for hypertension. Public blood pressure cuffs should not be used while physical and social isolation recommendations are in place.

An attempt to obtain a blood pressure measurement should be made within three months of CHC initiation. In patients \geq 35 years of age or younger patients with minor cardiovascular risk factors for whom estrogen containing contraceptives would still be considered acceptable, a blood pressure should be obtained within three months even if previously screened. Otherwise, continuation (re-prescribing) of estrogen-containing contraception can be performed by virtual visit or pharmacy refill without a blood pressure assessment.

9. Contraceptive patches can be changed every 9 days. A single vaginal contraceptive ring can be used continuously for up to 4 weeks.

Both the contraceptive patch and the vaginal contraceptive ring can be used in an off-label fashion beyond their approved duration of use.²⁴ This recommendation may become more applicable in the event of drug shortages or limited ability to pay for contraception due to loss of income or extended health benefits. Pharmacokinetic studies indicate that the patch maintains ovulation inhibitory levels of hormones throughout 9 days of use,²⁵ while the ring maintains inhibitory levels for at least 28 days of use.²⁶ The hormone-free interval for the patch or the ring should NOT exceed seven days.

10. Emergency contraception is an essential medical service for which timely access must be maintained.



Women should be reminded about the availability of emergency contraception (EC). Hormonal EC options include LNG-EC and UPA-EC (Ella®). Both should be taken within 5 days of unprotected intercourse (UPI). LNG-EC is more effective the sooner it is taken and can be obtained at a pharmacy without a prescription (either over-the counter or behind-the counter depending on the pharmacy and jurisdiction). UPA-EC requires a prescription and is more effective than LNG-EC, especially at days 4 and 5 after UPI. The copper IUD is the most effective EC method, can be inserted up to 7 days after UPI, and in addition provides ongoing contraception.²⁷ Copper IUD placement for emergency contraception should be considered an essential medical service.

Virtual encounters (telephone or video consultation) can be used for EC counselling. If hormonal EC is chosen, consider quick-starting another method of contraception such as a progestin-only pill or a combined hormonal contraceptive (in the absence of contraindications), and calling the prescription to a pharmacy. Timing of starting contraception after hormonal EC will depend on whether LNG-EC or UPA-EC was taken. Emergency copper IUD placements can be arranged when and where it is appropriate.

11. Emergency contraception should be discussed (LNG-EC, UPA-EC, copper IUD) and proactive prescriptions (UPA-EC) provided. Women should be aware of the possibility of drug shortages and possible alternatives to their current method of contraception.

Proactive prescription of UPA-EC should be considered for all patients using less reliable forms of contraception (SARC, barrier methods, withdrawal, natural family planning) or no method of contraception. If a patient feels uncomfortable initiating long acting reversible contraception given physical distancing recommendations and desires fewer in-person visits for safety, she should be counselled on short-acting and barrier methods of contraception. A prescription for UPA-EC could be provided until an in-person encounter can occur.

Due to disrupted production sites and supply chains, medication shortages may occur.²⁹ Although health care providers should provide enough refills to reduce required visits to medical offices and pharmacies, pharmacies may limit prescriptions to a 30-day supply. Patients may wish to explore and consider other contraceptive methods, including barrier contraception, in addition to their current method.

12. Women and couples who are awaiting a permanent contraception procedure should be reminded to use an effective, reversible method of contraception at this time and until the procedure can be performed.

The COVID-19 crisis requires the indefinite postponement of scheduled non-urgent procedures, including permanent contraception procedures.³⁰ Women waiting for a date for



surgery or a consultation for permanent contraception are at risk of unintended pregnancy if they are not using an effective method of birth control. It is advisable to inform these individuals that these procedures have been postponed indefinitely and remind them to use an effective contraceptive method until the procedure can be performed.³¹ Counselling on other contraceptive options can be performed by virtual encounter (telephone or video conferencing).

13. Women who are positive for COVID-19 infection can continue any form of contraception that has already been initiated, including combined hormonal contraceptives, regardless of illness severity.

Asymptomatic and mild illness not requiring hospitalization

There is currently no available evidence associating asymptomatic and mild COVID-19 illnesses not requiring hospitalization with an increased venous thromboembolism (VTE) risk.^{32, 33} In this context, any form of contraception, including estrogen-containing combined hormonal contraceptives, can be continued without modification.

Moderate to severe illness requiring hospitalization

Moderate and severe COVID-19 illnesses requiring hospitalization are associated with an increased VTE risk, up to 17% incidence of any VTE and 7.1% incidence of pulmonary embolism (PE).³⁴ Study populations were often older, mostly male and had risk factors for VTE, limiting generalizability to healthy, reproductive age women. Current recommendations are to prophylactically anti-coagulate everyone hospitalized with a COVID-19 illness.³⁵

Non-hormonal contraceptives (copper intrauterine device) and progesterone-only methods of contraception (POP, LNG-IUS, DMPA and progestin implants) are not associated with an increased risk of VTE²⁰ and require no modification to their ongoing use in women with moderate to severe COVID-19 illness requiring hospitalization.

Combined oral contraceptives (COCs) are associated with a 2- to 3- fold increase in VTE compared to non-users, with the highest risk in the first year of use. ²⁴ Baseline risk of VTE in reproductive age women not using COCs is 4-5/10,000-woman years, compared to 10/10,000 woman years in COC users. This is in comparison to the relative risk of 6.7 of VTE in pregnancy and 115.1 in the postpartum period. ²⁴ Contextualizing this risk against the risk of a pregnancy complicated by COVID-19 illness is crucial. In pregnant women with a COVID-19 illness, current data show a 7-10% rate of ICU admission, 3.4% rate of mechanical ventilation and 1% maternal mortality rate. ³⁶ The rate of VTE in pregnant women with COVID-19 is not established yet, with only a handful of case reports so far. ^{37, 38, 39, 40} Given the elevated risk of VTE associated with pregnancy and postpartum compared to CHC use, as well as the risks of pregnancy complicated by COVID-19 illness, continued use of CHCs (pill, patch or ring) in women with moderate to severe COVID-19 illness requiring hospitalization represents a balanced harm reduction approach.

14. Women who are positive for COVID-19 illness with asymptomatic or mild illness can initiate any form of contraception, including combined hormonal contraceptives.



Women who are positive for COVID-19 illness with moderate or severe illness requiring hospitalization can initiate non-hormonal or progesterone-only methods of contraception, with a transition to combined hormonal contraceptives (pill, patch, ring) at time of discharge, if desired.

Asymptomatic and mild illness not requiring hospitalization

There is currently no available evidence associating asymptomatic and mild COVID-19 illnesses not requiring hospitalization with an increased venous thromboembolism (VTE) risk.^{32, 33} In this context, initiating any form of contraception, including estrogen-containing combined hormonal contraceptives, is safe. The usual Medical Eligibility Criteria for each method apply. As outlined earlier in this guideline, women initiating combined hormonal contraceptives (pill, patch, ring) who are otherwise at low risk of cardiovascular disease, can initiate without a blood pressure assessment. A blood pressure should be assessed as soon as it is clinically feasible.

Moderate to severe illness requiring hospitalization

Non-hormonal contraceptives (copper intrauterine device) and progesterone-only methods of contraception (POP, LNG-IUS, DMPA and progestin implants) are not associated with an increased risk of VTE²⁰ and can be initiated in women with moderate to severe COVID-19 illness requiring hospitalization.

As outlined above, COC use is associated with a 2- to 3- fold increase in VTE risk from baseline, with the highest risk within the first year of use. While women with COVID-19 who have already initiated this as their chosen form of contraception may continue instead of stopping and re-starting CHCs, women who are choosing to initiate contraception at the time of moderate to severe COVID-19 illness requiring hospitalization should consider non-hormonal or progesterone-only methods first.

The risk of VTE associated with moderate to severe COVID-19 illness requiring hospitalization returns to baseline at discharge from hospital. Current recommendations are to halt prophylactic anti-coagulation at the time of discharge. St, 42 Given this return to baseline VTE risk, women desiring to initiate combined hormonal contraception or transition from another method can do so safely at this time.

15. Women who are positive for COVID-19 infection can use any form of emergency contraception, regardless of illness severity.

There are no absolute contraindications to the use of emergency contraception aside from pregnancy and hypersensitivity. Even women with contraindications to the use of CHCs can safely use hormonal EC methods. Women with any severity of COVID-19 illness can safely use any of the currently available methods for emergency contraception in Canada.



Table 1: Contraception Counselling and Care During the COVID-19 Pandemic

Contraception Counselling and Care During COVID-19 Pandemic

Essential Services

- Emergency contraception (LNG-EC, UPA-EC, postcoital Cu-IUD insertion)
- IUC insertion for contraception
- Management of IUC complications
- In-person contraception for vulnerable groups where virtual care not possible
- Post abortion contraception
- Virtual and online contraception counselling and services

Adapted from Usual Best Practice

- · Remote initiation of POP, DMPA, CHC
- Remote options counselling
- Remote IUC counselling
- Remote quick start of contraception following emergency contraception use
- Refill contraception prescriptions without in person assessment
- Delayed blood pressure assessment in women < age 35 initiating CHC if no contraindications to use and no cardivoascular risk factors
- Extended use of the contraceptive patch and vaginal contraceptive ring
- Extended IUC and implant use. Defer routine LARC removal/exchanges

REFERENCES

- 1. Resolution XVIII: Human Rights Aspects of Family Planning, Final Act of the International Conference on Human Rights. U.N. Doc. A/CONF. 32/41, p.15.
- 2. (WHO) WHO. Ensuring human rights in the provision of contraceptive information and services: Guidance and recommendations. 2014. Available at https://apps.who.int/iris/bitstream/handle/10665/102539/9789241506748_eng.pdf?sequence=1.
- 3. Simsek Z, Yentur Doni N, Gul Hilali N, et al. A community-based survey on Syrian refugee women's health and its predictors in Sanliurfa, Turkey. Women Health. 2018;58:617-31.
- 4. Casey SE, Tshipamba M. Contraceptive availability leads to increase in use in conflict-affected Democratic Republic of the Congo: evidence from cross-sectional cluster suveys, facility assessments and services statistics. Confl Health. 2017;8:2.
- 5. United Nations Population Fund (UNFPA). Coronavirus Disease (COVID-19) Pandemic: UNFPA Global Response Plan. April 2020. Available at https://www.unfpa.org/sites/default/files/resource-pdf/COVID-19 UNFPA Global Response Plan April 07.pdf.
- 6. Black A, Guilbert E, Costescu D, et al. Canadian Contraception Consensus (Part 3 of 4): Chapter 7--Intrauterine Contraception. J Obstet Gynaecol Can. 2016;38:182-222.
- 7. Bahamondes L, Fernandes A, Monteiro I, et al. Long-acting reversible contraceptive (LARCs) methods. Best Pract Res Clin Obstet Gynaecol. 2020;66:28-40.
- 8. Wu JP, Pickle S. Extended use of the intrauterine device: a literature review and recommendations for clinical practice. Contraception. 2014;89:495-503.
- 9. Hidalgo MM, Hidalgo-Regina C, Bahamondes MV, et al. Serum levonorgestrel levels and endometrial thickness during extended use of the levonorgestrel-releasing intrauterine system. Contraception. 2009;80:84-9.
- 10. Creinin MD. Extended use of the intrauterine device: a literature review and recommendations for clinical practice. Contraception. 2014;90:104.
- 11. Ronnerdag M, Odlind V. Health effects of long-term use of the intrauterine levonorgestrel-releasing system. A follow-up study over 12 years of continuous use. Acta Obstetricia et Gynecologica Scandinavica. 1999;78:716-21.
- 12. Ti AJ, Roe AH, Whitehouse KC, et al. Effectiveness and safety of extending intrauterine device duration: a systematic review. Am J Obstet Gynecol. 2020;223:24-35.E3.

- 13. McNicholas C, Swor E, Wan L, et al. Prolonged use of the etonogestrel implant and levonorgestrel intrauterine device: 2 years beyond Food and Drug Administration-approved duration. Am J Obstet Gynecol. 2017;216:586 e1- e6.
- 14. The Faculty of Sexual and Reproductive Healthcare. Essential SRH Services during COVID-19 March 2020 2020. Available at https://www.fsrh.org/documents/fsrh-position-essential-srh-services-during-covid-19-march-2020/.
- 15. Andersson K, Odlind V, Rybo G. Levonorgestrel-releasing and copper-releasing (Nova-T) IUDs during five years of use: A randomized comparative trial. Contraception. 1994;49:56-72.
- 16. Bahamondes L, Faundes A, Sobreira-Lima B, et al. TCu 380A IUD: a reversible permanent contraceptive method in women over 35 years of age. Contraception. 2005;72:337-41.
- 17. Ali M, Akin A, Bahamondes L, et al. Extended use up to 5 years of the etonogestrel-releasing subdermal contraceptive implant: comparison to levonorgestrel-releasing subdermal implant. Hum Reprod. 2016;31:2491-8.
- 18. Ali M, Bahamondes L, Bent Landoulsi S. Extended Effectiveness of the Etonogestrel-Releasing Contraceptive Implant and the 20 microg Levonorgestrel-Releasing Intrauterine System for 2 Years Beyond U.S. Food and Drug Administration Product Labeling. Glob Health Sci Pract. 2017;5:534-9.
- 19. McNicholas C, Maddipati R, Zhao Q, et al. Use of the etonogestrel implant and levonorgestrel intrauterine device beyond the U.S. Food and Drug Administration-approved duration. Obstet Gynecol. 2015;125:599-604.
- 20. Black A, Guilbert E, Costescu D, et al. Canadian Contraception Consensus (Part 3 of 4): Chapter 8 Progestin-Only Contraception. J Obstet Gynaecol Can. 2016;38:279-300.
- 21. Steiner MJ, Kwok C, Stanback J, et al. Injectable contraception: what should the longest interval be for reinjections? Contraception. 2008;77:410-4.
- 22. Paulen ME, Curtis KM. When can a woman have repeat progestogen-only injectables-depot medroxyprogesterone acetate or norethisterone enantate? Contraception. 2009;80:391-408.
- 23. Curtis KM, Jatlaoui TC, Tepper NK, et al. U.S. Selected Practice Recommendations for Contraceptive Use, 2016. MMWR Recomm Rep. 2016;65:1-66.
- 24. Black A, Guilbert E, Costescu D, et al. No. 329-Canadian Contraception Consensus Part 4 of 4 Chapter 9: Combined Hormonal Contraception. J Obstet Gynaecol Can. 2017;39:229-68 e5.
- 25. Abrams LS, Skee DM, Wong FA, et al. Pharmacokinetics of norelgestromin and ethinyl estradiol from two consecutive contraceptive patches. J Clin Pharmacol. 2001;41:1232-7.

- 26. Timmer CJ, Mulders TM. Pharmacokinetics of etonogestrel and ethinylestradiol released from a combined contraceptive vaginal ring. Clin Pharmacokinet. 2000;39:233-42.
- 27. Black A, Guilbert E, Co A, et al. Canadian Contraception Consensus (Part 1 of 4). J Obstet Gynaecol Can. 2015;37:936-42.
- 28. Guilbert E, Dunn S, Black A. Addendum to the Canadian Consensus on Contraception Emergency Contraception: 1) Excluding pre-existing pregnancy when inserting copper IUD and 2) Initiation of hormonal contraception after emergency contraception. J Obstet Gynaecol Can. 2016;38:1150-1.
- 29. Purdy C. Opinion: How will COVID-19 affect global access to contraceptives and what can we do about it? March 11 2020. Available at https://www.devex.com/news/opinion-how-will-covid-19-affect-global-access-to-contraceptives-and-what-can-we-do-about-it-96745.
- 30. American College of Surgeons. COVID 19: Elective Case Triage Guidelines for Surgical Care, Gynecology 2020 [updated March 24, 2020April 12, 2020]. Available at https://www.facs.org/-/media/files/covid19/guidance_for_triage_of_nonemergent_surgical_procedures_gynecology.ashx.
- 31. Black A, Guilbert E, Costescu D, et al. Canadian Contraception Consensus (Part 2 of 4). J Obstet Gynaecol Can. 2015;37:1033-9.
- 32. American Society of Hematology. COVID-19 and VTE/Anticoagulation: Frequently Asked Questions. 2021. Available at https://www.hematology.org/covid-19/covid-19-and-vte-anticoagulation.
- 33. Sciurba FC. COVID-19 Positive Outpatient Thrombosis Prevention in Adults Aged 40-80 (ClinicalTrials.gov Identifier: NCT04498273). 2021. Available at https://clinicaltrials.gov/ct2/show/NCT04498273.
- 34. Jiménez D, García-Sanchez A, Rali P, et al. Incidence of VTE and Bleeding Among Hospitalized Patients With Coronavirus Disease 2019: A Systematic Review and Meta-analysis. Chest. 2021;159:1182-96.
- 35. Cuker A, Tseng EK, Nieuwlaat R, et al. American Society of Hematology 2021 guidelines on the use of anticoagulation for thromboprophylaxis in patients with COVID-19. Blood Adv. 2021;5:872-88.
- 36. Kadir RA, Kobayashi T, Iba T, et al. COVID-19 coagulopathy in pregnancy: Critical review, preliminary recommendations, and ISTH registry-Communication from the ISTH SSC for Women's Health. J Thromb Haemost. 2020;18:3086-98.

- 37. Khalil A, Kalafat E, Benlioglu C, et al. SARS-CoV-2 infection in pregnancy: A systematic review and meta-analysis of clinical features and pregnancy outcomes. EClinicalMedicine. 2020;25:100446.
- 38. Martinelli I, Ferrazzi E, Ciavarella A, et al. Pulmonary embolism in a young pregnant woman with COVID-19. Thromb Res. 2020;191:36-7.
- 39. Ahmed I, Azhar A, Eltaweel N, et al. First COVID-19 maternal mortality in the UK associated with thrombotic complications. Br J Haematol. 2020;190:e37-e8.
- 40. Mohammadi S, Abouzaripour M, Hesam Shariati N, et al. Ovarian vein thrombosis after coronavirus disease (COVID-19) infection in a pregnant woman: case report. J Thromb Thrombolysis. 2020;50:604-7.
- 41. Roberts LN, Whyte MB, Georgiou L, et al. Postdischarge venous thromboembolism following hospital admission with COVID-19. Blood. 2020;136:1347-50.
- 42. National Institutes of Health. COVID-19 Treatment Guidelines Panel. Coronavirus Disease 2019 (COVID-19) Treatment Guidelines. 2021. Available at https://www.covid19treatmentguidelines.nih.gov/.
- 43. Black A, Guilbert E, Co A, et al. Canadian Contraception Consensus (Part 1 of 4): Chapter 3 Emergency Contraception. J Obstet Gynaecol Can. 2015;37:S20-S8.