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The WHO's medical eligibility criteria for contraceptive use: 20 years of global guidance

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Abstract

Purpose of review—The purpose of this review is to revisit the inception of the WHO's medical eligibility criteria for contraceptive use (MEC), particularly its objectives and methodology, and to describe its impact over the last 20 years in the field of family planning. New recommendations are summarized from the newly released fifth edition of the guidance.

Recent findings—Fourteen topics, encompassing over 575 recommendations were reviewed for the MEC, fifth edition. New recommendations include: changes for combined hormonal contraceptive use among postpartum women; progestogen-only methods among breastfeeding women; and women at high risk for HIV infection, women living with HIV, and women living with HIV using antiretroviral therapy and hormonal contraception. New methods reviewed include subcutaneously administered depot medroxyprogesterone acetate, Sino-implant (II), ulipristal acetate, and progesterone-releasing vaginal ring.

Summary—Over the past 20 years, the MEC has become a remarkably influential document for practitioners and policy makers in family planning, as it provides up-to-date, evidence-based recommendations for contraceptive use for women with various medical conditions and medically relevant characteristics.

Keywords

contraception; evidence-based medicine; family planning; healthcare access

Introduction

The first edition of the WHO's *Medical Eligibility Criteria for Contraceptive Use, 1996* (MEC) has 'IMPROVING ACCESS TO QUALITY CARE IN FAMILY PLANNING' written in capital letters across the top of the front cover. The objective was clear: to base contraceptive provision on scientifically derived medical knowledge in order to improve

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quality and to expand these practices worldwide. In their landmark article, 'Medical barriers to access to family planning', Shelton *et al.* [1] of the US Agency for International Development described six types of barriers that plagued contraceptive practices: misguided contraindications, arbitrary eligibility criteria, process hurdles, service provision limited to physicians, bias of providers, and government-based regulatory restrictions on methods. Many of these barriers stemmed from the unjustified belief that contemporary contraceptives (particularly hormonal contraception and intrauterine devices) were potentially dangerous and their use needed to be restricted to protect women. By the 1990s, however, the opposite had proven to be true from over 30 years of experience with hormonal contraception. Based on the best scientific evidence available, contemporary contraception was found to be well tolerated and effective for the majority of women and it provided women and their partners an opportunity to make reproductive decisions, such as to space or to prevent pregnancy.

The concept of a contraindication is well known in medicine: practically speaking, it is a reason for why a medication should not or cannot be given to someone because of the harm it may cause. Ideally, a provider considers contraindications within the patient' s clinical context rather than using contraindications to make clinical decisions directly. In many low resource settings, however, community providers with limited medical training used checklists and other job aids to screen for contraindications, which contained general categories, such as 'irregular menses' or 'ever having a headache,' making it likely that many otherwise appropriate candidates were excluded unnecessarily. Similarly, some guidelines had listed eligibility criteria for various types of methods that were unjustifiably exclusive (e.g., intrauterine devices for multiparous women only, depot medroxyprogesterone acetate restricted to older women, and hormonal oral contraceptives restricted to younger women) [1]. These barriers had the potential to most dramatically restrict access for women living in rural areas in low-income countries, who often had to travel long distances to a health post only to learn that they did not qualify for the contraceptive method they were seeking.

Many of the decision makers dictating contraceptive access failed to realize that contraception is unlike other medications or treatments: contraceptives are within the purview of the individual instead of the provider. It is the responsibility of the provider to tailor contraceptive options to the woman's needs and to guide her in selecting the best method for her rather than prescribe the single best method. Furthermore, many providers considered their responsibility to the woman in narrow terms. They viewed the medical philosophy, 'first, do no harm' limited to that particular decision, on some occasions determining that a woman's medical condition was too 'high risk' for contraception, and in turn, did not prescribe any contraception. They did not consider the harm caused by denying her contraception, the increased likelihood of unintended pregnancy – and accompanying high rates of maternal mortality in many parts of the world – and, more fundamentally, the dismissal of her right to exercise her reproductive rights.

The first edition of the MEC was published at an opportune time: evidence-based medicine was gaining momentum, there was a growing body of clinical and epidemiological evidence regarding the safety of contraception, and programme implementers were looking for ways to improve the quality of family planning services [2]. These developments provided the

necessary ingredients to confront the aforementioned medical barriers. Prior to the 1990s, most medical recommendations were commonly based on expert opinion, which were laden with bias and imprecision. The advent of evidence-based medicine allowed medical decision-making to be guided by conclusions from scientifically rigorous research and helped to improve clinical outcomes.

Epidemiologists at the Centers for Disease Control and Prevention (CDC) and the WHO applied this new approach to identify and synthesize contraceptive research focusing on combinations of contraceptive methods and medical conditions. The reviews were designed to answer questions about safety: whether the contraceptive method worsens the medical condition or creates additional health risks, and whether the medical circumstance makes the contraceptive method less effective. They reviewed many existing guidelines for contraceptive use, paying special attention to conflicting information and controversies and tried to include as many medical conditions and characteristics as possible that were considered a relative or absolute ‘contraindication’ for a contraceptive method. Those materials became the basis for the discussion and deliberation at the technical meetings at WHO that led to the publication of the MEC.

Establishment of the Medical Eligibility Criteria for Contraceptive Use

Fifty-four participants from 21 countries, including representatives of several international organizations and agencies and women’s health advocates gathered at WHO in Geneva in 1994 and 1995. The group determined that WHO was the most appropriate organization to publish and disseminate this information. Evidence reviews and expert opinion of the participants were used to formulate recommendations for contraceptive use of a wide variety of methods including low-dose combined oral contraceptives, emergency contraceptive pills (containing estrogen and progestin), combined injectable contraceptives, progestin-only contraception, intrauterine devices [copper and levonorgestrel-releasing intrauterine device (IUD)], copper IUD for emergency contraception, sterilization procedures, natural family planning, barrier methods, and lactational amenorrhea in the context of over 50 different medical conditions and medically relevant characteristics. The group aimed to ensure an adequate margin of safety to protect women from potential adverse effects of contraceptives while ensuring that they were not denied a choice of suitable methods [3].

In determining how to present their recommendations, the group abandoned the system based on contraindications, given the degree of confusion and misuse it caused. Instead, a ranking of one to four was created to elaborate on the degree of restriction of a particular method (Table 1) [3]. When the provider had limited clinical judgment, the one through four categories could be collapsed into two categories of ‘yes’ and ‘no.’ The new system was intended to guide clinical decision-making in basic as well as more nuanced clinical scenarios (Table 1).

The MEC was meant to serve as guidance for national guidelines, rather than a guideline itself, to be adapted to region-specific contexts and populations. The group planned to update the guidance on a regular basis and established a guiding principle that a specific recommendation could not be changed unless there was new scientific evidence that altered

our understanding about safety. The MEC is currently in its fifth edition. Recommendations for many of the conditions from the first publication have withstood the test of time and remain unchanged. New contraceptive methods have been added to reflect global practices. With improved reporting of research methods, evolving systematic review methodology, and more comprehensive bibliographic databases, the quality and the quantity of the systematic reviews conducted increased substantially (over 70).

The group sought to find a balance between maintaining a rigorous approach to synthesizing the best evidence while also being practical. A novel system called Continuous Identification of Research Evidence (CIRE) was developed in 2002, through the collaboration of WHO, CDC, and Information and Knowledge for Optimal Health Project at the Johns Hopkins Bloomberg School of Public Health's Center for Communication Programmes, which allowed new contraceptive research to be continuously identified through the POPLINE database, to be reviewed by WHO and CDC colleagues on a weekly basis to contribute to the existing body of knowledge and recommendations [4]. The CIRE system provides WHO with the capability to remain up to date on new scientific evidence and issue updated guidance as necessary through identifying, critically appraising, and peer reviewing scientific evidence on the safety and effectiveness of contraceptive methods.

Significance of the Medical Eligibility for Contraceptive Use and the Four Cornerstones of Family Planning Guidance

The first publication of the MEC had immediate impact worldwide due to the void of evidence-based family planning recommendations at the time. It has been estimated that over 50 national programmes adopted the MEC guidance. In addition to improving access to contraceptives by removing nonscientific restrictions, it has influenced national drug formularies, labeling of pharmaceuticals and patient handouts, as well as WHO's list of essential medicines. The MEC is referenced throughout the world and is considered an authoritative document on medical eligibility for contraceptive use. Some countries (e.g., Mexico, South Africa, the United States, and the United Kingdom) have used WHO's MEC to draft their own guidelines relevant to their country's populations and needs as some medical conditions are more prevalent in some countries than others.

After the publication of the MEC, WHO went on to develop additional guidance, 'Selective practice recommendations for contraceptive use' (SPR) and supplementary materials to facilitate the use of the MEC and SPR ('Decision-making tool for family planning clients and providers' and 'Family planning: a global handbook for providers'). Together these four documents are known as WHO's Four Cornerstones of Family Planning Guidance. Moreover, several provider tools have been developed, including the MEC Wheel, a tool containing select medical conditions and characteristics and their corresponding recommendations. This tool has gained popularity as it simplifies the MEC for immediate clinical use. More than 175 000 copies have been sold and it is available in more than 40 languages.

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Highlights of the Fifth Edition of the Medical Eligibility Criteria for Contraceptive Use

A Guideline Development Group (GDG) convened at WHO in 2013 and 2014 to review and revise the fourth edition of the guidelines. Prior to meeting, a broad group of stakeholders with expertise in family planning, including individuals from many implementing agencies, professional societies, WHO regional, and country offices and the Ministry of Health in each of the WHO member states was surveyed. They were asked to rank the importance of various outcomes pertaining to topics that had been identified as priority questions for the fifth edition, as well as suggest other outcomes and clinical questions of importance, and to give input regarding the format of the guidance [5■].

Accordingly, the GDG assigned priority to: topics identified as controversial or of particular importance to the field (e.g., hormonal contraceptive use among women on antiretroviral therapy and emergency contraceptive pill use among obese women); topics with new evidence for which the existing recommendation was potentially inconsistent with the updated body of evidence (e.g., use of various contraceptive methods among breastfeeding women [6,7■]); topics with interim guidance issued as the MEC, fourth edition (combined hormonal contraceptive use during the postpartum period and hormonal contraceptive use among women at high risk for HIV acquisition and women living with HIV [8■,9■]); newly introduced contraceptive methods [subcutaneous medroxyprogesterone acetate, Sino-implant(II), progesterone-releasing vaginal ring and ulipristal acetate]; or recommendations from the MEC, fourth edition that needed additional clarification according to WHO's Guidelines Review Committee.

Fourteen topics (encompassing over 575 recommendations) were reviewed by the GDG in preparation for the MEC, fifth edition. The Grading Recommendations, Assessment, Development and Evaluation (GRADE) approach was applied to assess the quality of the available evidence, and this process provided the basis for the formulation of recommendations [10] [see also: WHO Handbook for Guideline Development, 2nd ed. (http://www.who.int/kms/handbook_2nd_ed.pdf, accessed 1 July 2015)]. One significant challenge using the GRADE system (unlike the United States Preventive Services Task Force system that had been used for prior editions of the MEC) is its tendency to significantly downgrade studies that are not randomized controlled trials. Most clinical questions addressed in the MEC are not appropriately studied as randomized controlled trials because they explore questions of safety rather than a comparison of method efficacy. Furthermore, the objective of the MEC is to describe contraceptive options rather than state the best method for a particular medical condition or a medically relevant characteristic. As a result, although quality of the evidence for each recommendation may be deemed to be of low quality in the GRADE scheme, based upon the observational nature of the majority of the studies summarized, other important factors, such as benefits versus harms and patient values and preferences tip the scales such that even with a low quality of evidence rating, the recommendation is strong [11■].

The majority of recommendations from the fourth edition were upheld for the fifth edition. New recommendations highlighting changes from the fourth edition, wherein applicable, are

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presented in Table 2. Breastfeeding women have more contraceptive options according to the latest MEC as recommendations on the use of progestogenonly pills and implants in the first 6 weeks postpartum switched from a category three to a category two. The levonorgestrel IUD may be inserted in the first 48 h postdelivery or 4 weeks for both breastfeeding and nonbreastfeeding women. After reviewing the risk of venous thromboembolism (VTE) in the postpartum period for women with preexisting risk factors for VTE, the GDG restricted the use of combined hormonal contraceptives from three/four to a four in the first 3 weeks postpartum and from a two/three to a three between 3 and 6 weeks postpartum.

'Known hyperlipidemias' was renamed to 'known dyslipidemias without other known cardiovascular risk factors' and the recommendation that had been two/three for combined hormonal contraceptives was revised to a two. Recommendations for drug interactions with antiretroviral therapy were expanded, with recommendations described for each particular drug and contraceptive method [8■]. Ulipristal acetate was added as a method of emergency contraception, as well as new recommendations for the use of emergency contraceptive pills for women who are obese or using CYP3A4 inducers.

Conclusion

WHO has excelled as a technical organization and a convening body to devise evidence-based best practices in family planning. It partners with other organizations to disseminate, implement, and evaluate its publications to determine its impact on family planning practices. Implementing Best Practices, founded in 1999, now comprised of over 40 international organizations, provides opportunities to implement such practices on a large scale.

WHO continues to publish hard copies and offers publications online to meet the needs of different users. It has recently undertaken an ambitious project to make its publications more accessible. An individual with a clinical question may now search the content of WHO publications to get a summary of recommendations from multiple publications at the same time. Work is currently underway to use this platform to synthesize best practices for postpartum contraception, with the aim of eventually adding the entire content of the MEC and SPR.

Social media, mobile technology and online learning also offer exciting and innovative platforms for dissemination and evaluation of the MEC. Facebook and Twitter were used to announce the launch of the fifth edition of the MEC with great success. New projects are being considered, such as offering the SPR as a pocket-sized publication for immediate reference in the field. Similarly, the MEC may be developed into a mobile application to function similarly to the MEC Wheel, in which the provider would be able to enter the patient's characteristics and determine appropriate contraceptive methods to offer to the patient. Undoubtedly, there are many opportunities to increase – to continue improving access to quality care in family planning.

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References and Recommended Reading

Papers of particular interest, published within the annual period of review, have been highlighted as:

- ■ of special interest
- ■■ of outstanding interest

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Key Points

- The WHO's medical eligibility criteria for contraceptive use (MEC) is a guidance for national guidelines, to be adapted to region-specific contexts and populations.
- The purpose of the MEC is to improve contraceptive provision practices worldwide.
- The MEC's recommendations are derived from a scientifically rigorous evidence-based review process.
- The fifth edition offers nearly 2000 recommendations on contraceptive eligibility for 26 family planning methods.
- The MEC is being adapted to new platforms to expand use with increasing efforts to assess dissemination, implementation, and evaluation.

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Table 1

Medical eligibility criteria for contraceptive use categories for contraceptive eligibility

Category	Definition	With clinical judgement	With limited clinical judgement
1	A condition for which there is no restriction for the use of the contraceptive method	Use method in any circumstance	Yes, use the method
2	A condition where the advantages of using the method generally outweigh the theoretical or proven risks	Generally use method	
3	A condition where the theoretical or proven risks usually outweigh the advantages of using the method	Use of method not usually recommended unless other more appropriate methods are not available or not acceptable	No, do not use the method
4	A condition that represents an unacceptable health risk if the contraceptive method is used	Method not to be used	

Table 2

Topics reviewed for the medical eligibility criteria for contraceptive use, fifth edition

Topic	MEC recommendation
1. Recommendations for CHC use by age group (CHCs include COCs, combined injectable contraceptives, combined patch and combined vaginal ring)	
Less than 40 years	Women from menarche through 40 years of age can use CHCs without restriction (MEC Category 1).
At least 40 years	Women 40 years and older can generally use CHCs (MEC Category 2).
2. Recommendations for CHC use among breastfeeding women	
Less than 6 weeks postpartum	Breastfeeding women less than 6 weeks postpartum should not use CHCs (MEC Category 4).
At least 6 weeks to <6 months postpartum	Breastfeeding women at least 6 weeks to less than 6 months postpartum (primarily breastfeeding) generally should not use CHCs (MEC Category 3).
At least 6 months postpartum	Breastfeeding women at least 6 months postpartum can generally use CHCs (MEC Category 2).
3. Recommendations for CHC use among postpartum women	
Less than 21 days postpartum without other risk factors for VTE	Women who are less than 21 days postpartum and do not have other risk factors for VTE generally should not use CHCs (MEC Category 3).
Less than 21 days postpartum with other risk factors for VTE	Women who are less than 21 days postpartum with other risk factors for VTE should not use CHCs (MEC Category 4).
At least 21 days to 42 days postpartum without other risk factors for VTE	Women who are at least 21 days to 42 days postpartum without other risk factors for VTE can generally use CHCs (MEC Category 2).
At least 21 days to 42 days postpartum with other risk factors for VTE	Women who are at least 21 days to 42 days postpartum with other risk factors for VTE generally should not use CHCs (MEC Category 3).
More than 42 days postpartum	Women who are more than 42 days postpartum can use CHCs without restriction (MEC Category 1).
4. Recommendations for CHC use among women with superficial venous disorders	
Varicose veins	Women with varicose veins can use CHCs without restriction (MEC Category 1).
Superficial venous thrombosis (SVT)	Women with SVT can generally use CHCs (MEC Category 2).
5. Recommendations for CHC use among women with known dyslipidemias	
Known dyslipidemias without other known cardiovascular risk factors	Women with known dyslipidemias without other known cardiovascular risk factors can generally use CHCs (MEC Category 2).
6. Recommendations for POC and LNG-IUD use among breastfeeding women	
6a. POC use among breastfeeding women (POCs include progestogen-only pills, implants and injectables)	
Less than 6 weeks postpartum	Breastfeeding women who are less than 6 weeks postpartum can generally use POPs and levonorgestrel (LNG) and ETG implants (MEC Category 2). Breastfeeding women who are less than 6 weeks postpartum generally should not use progestogen-only injectables (POIs) (DMPA or NET-EN) (MEC Category 3).
At least 6 weeks to less than 6 months postpartum	Breastfeeding women who are at least 6 weeks to less than 6 months months postpartum can use POPs, POIs, and LNG and ETG implants without restriction (MEC Category 1).
At least 6 months postpartum	Breastfeeding women who are at least 6 months postpartum can use POPs, POIs, and LNG and ETG implants without restriction (MEC Category 1).
6b. LNG-IUD use among breastfeeding women	
Less than 48 h postpartum	Breastfeeding women who are less than 48 h postpartum can generally use LNG-IUDs (MEC Category 2).
At least 48 h to less than 4 weeks postpartum	Breastfeeding women who are at least 48 h to less than 4 weeks postpartum generally should not have an LNG-IUD inserted (MEC Category 3).

Topic	MEC recommendation
At least 4 weeks postpartum	Breastfeeding women who are at least 4 weeks postpartum can use an LNG-IUD without restriction (MEC Category 1).
Puerperal sepsis	Breastfeeding (and nonbreastfeeding) women with puerperal sepsis should not have an LNG-IUD inserted (MEC Category 4).
7. Recommendations for use of subcutaneously-administered DMPA-SC – new method added to the guideline	
All recommendations	Recommendations for DMPA-SC will follow the current recommendations for DMPA-IM.
8. Recommendations for Sino-implant (II) – new method added to the guideline	
All recommendations	Recommendations for Sino-implant (II) will follow the current recommendations for LNG implants.
9. Recommendations for emergency contraceptive pills (ECPs) – ulipristal acetate (UPA) as a new method added to the guideline and obesity as a new condition for ECP use	
Pregnancy	For pregnant women, ECP use is not applicable.
Breastfeeding	Breastfeeding women can use COCs or LNG for ECPs without restriction (MEC Category 1). Women who are breastfeeding can generally use UPA for ECPs (MEC Category 2).
Past ectopic pregnancies	Women who have experienced past ectopic pregnancies can use COCs, LNG or UPA for ECPs without restriction (MEC Category 1).
History of severe cardiovascular disease	Women with history of severe cardiovascular disease, including ischaemic heart disease, cerebrovascular attack or other thromboembolic conditions, can generally use COCs, LNG or UPA for ECPs (MEC Category 2).
Migraines	Women with migraines can generally use COCs, LNG or UPA for ECPs (MEC Category 2).
Severe liver disease	Women with severe liver disease, including jaundice (a personal characteristic and sign of liver disease prior to diagnosis), can generally use COCs, LNG or UPA for ECPs (MEC Category 2).
Use of CYP3A4 inducer	Women using CYP3A4 inducers can use COCs, LNG or UPA for ECPs without restriction (MEC Category 1).
Repeat use of ECP	There are no restrictions on repeated use for COCs, LNG or UPA for ECPs (MEC Category 1).
Rape	There are no restrictions for use of COCs, LNG or UPA for ECPs in cases of rape (MEC Category 1).
Obesity	Women who are obese can use COCs, LNG or UPA for ECPs without restriction (MEC Category 1).
10. Intrauterine device (IUD) use for women with increased risk of sexually transmitted infections (STIs)	
IUD initiation	Many women with increased risk of STIs can generally undergo either Cu-IUD or LNG-IUD initiation (MEC Category 2). Some women at increased risk (very high individual likelihood) of STIs generally should not have an IUD inserted until appropriate testing and treatment occur (MEC Category 3).
IUD continuation	Women at increased risk of STIs can generally continue use of either Cu- IUD or LNG-IUD (MEC Category 2).
11. Recommendations for use of progesterone-releasing vaginal ring – new method added to the guideline	
Breastfeeding and at least 4 weeks postpartum	Women who are actively breastfeeding and are at least 4 weeks postpartum can use the progesterone-releasing vaginal ring without restrictions (MEC Category 1).
12. Recommendations for use of hormonal contraception for women at high risk of HIV infection, women living with HIV, and women living with HIV using ART	
12a. Women at high risk of HIV infection	Women at high risk of acquiring HIV can use the following hormonal contraceptive methods without restriction: COCs, CICs, combined contraceptive patches and rings, POPs, POIs (DMPA and NET-EN), and LNG and ETG implants (MEC Category 1). Women at high risk of acquiring HIV can generally use LNG-IUDs (MEC Category 2).
12b. Women living with asymptomatic or mild HIV clinical disease (WHO stage 1 or 2)	Women living with asymptomatic or mild HIV clinical disease (WHO stage 1 or 2) can use the following hormonal contraceptive methods without restriction: COCs, CICs,

Topic	MEC recommendation
	combined contraceptive patches and rings, POPs, POIs (DMPA and NET-EN), and LNG and ETG implants (MEC Category 1). Women living with asymptomatic or mild HIV clinical disease (WHO stage 1 or 2) can generally use the LNG-IUD (MEC Category 2).
12c. Women living with severe or advanced HIV clinical disease (WHO stage 3 or 4)	Women living with severe or advanced HIV clinical disease (WHO stage 3 or 4) can use the following hormonal contraceptive methods without restriction: COCs, CICs, combined contraceptive patches and rings, POPs, POIs (DMPA and NET-EN), and LNG and ETG implants (MEC Category 1). Women living with severe or advanced HIV clinical disease (WHO stage 3 or 4) should generally not initiate use of the LNG-IUD (MEC Category 3) until their illness has improved to asymptomatic or mild HIV clinical disease (WHO stage 1 or 2). Women who already have an LNG-IUD inserted and who develop severe or advanced HIV clinical disease need not have their IUD removed (MEC Category 2 for continuation).
12d. Women living with HIV using ART	
Nucleoside/nucleotide reverse transcriptase inhibitor (NRTI)	Women taking any NRTI can use all hormonal contraceptive methods without restriction: COCs, CICs, combined contraceptive patches and rings, POPs, POIs (DMPA and NET-EN), and LNG and ETG implants (MEC Category 1). Women taking any NRTI can generally use the LNG-IUD (MEC Category 2), provided that their HIV clinical disease is asymptomatic or mild (WHO Stage 1 or 2). Women living with severe or advanced HIV clinical disease (WHO stage 3 or 4) and taking any NRTI generally should not initiate use of the LNG-IUD (MEC Category 3 for initiation) until their illness has improved to asymptomatic or mild HIV clinical disease. Women taking any NRTI who already have had an LNG-IUD inserted and who develop severe or advanced HIV clinical disease need not have their IUD removed (MEC Category 2 for continuation).
NNRTIs containing efavirenz or nevirapine-containing ART	Women using NNRTIs containing either efavirenz or nevirapine can generally use COCs, CICs, combined contraceptive patches and rings, POPs, NET-EN, and LNG and ETG implants (MEC Category 2). Women using efavirenz or nevirapine can use DMPA without restriction (MEC Category 1). Women using NNRTIs containing either efavirenz or nevirapine can generally use the LNG-IUD (MEC Category 2), provided that their HIV clinical disease is asymptomatic or mild (WHO Stage 1 or 2). Women living with severe or advanced HIV clinical disease (WHO stage 3 or 4) and using efavirenz or nevirapine generally should not initiate use of the LNG-IUD (MEC Category 3 for initiation) until their illness has improved to asymptomatic or mild HIV clinical disease. Women using efavirenz or nevirapine who already have had an LNG-IUD inserted and who develop severe or advanced HIV clinical disease need not have their IUD removed (MEC Category 2 for continuation).
NNRTIs containing etravirine and rilpivirine	Women using the newer NNRTIs containing etravirine and rilpivirine can use all hormonal contraceptive methods without restriction (MEC Category 1). Women taking newer NNRTIs can generally use the LNG-IUD (MEC Category 2), provided that their HIV clinical disease is asymptomatic or mild (WHO Stage 1 or 2). Women living with severe or advanced HIV clinical disease (WHO stage 3 or 4) and using newer NNRTIs generally should not initiate use of the LNG-IUD (MEC Category 3 for initiation) until their illness has improved to asymptomatic or mild HIV clinical disease. Women using newer NNRTIs who already have had an LNG-IUD inserted and who develop severe or advanced HIV clinical disease need not have their IUD removed (MEC Category 2 for continuation).
Protease inhibitors (e.g., ritonavir and ARVs boosted with ritonavir)	Women using protease inhibitors (e.g., ritonavir and ARVs boosted with ritonavir) can generally use COCs, CICs, combined contraceptive patches and rings, POPs, NET-EN, and LNG and ETG implants (MEC Category 2). Women using protease inhibitors (e.g., ritonavir and ARVs boosted with ritonavir) can use DMPA without restriction (MEC Category 1). Women using protease inhibitors (e.g. ritonavir and ARVs boosted with ritonavir) can generally use the LNG-IUD (MEC Category 2), provided that their HIV clinical disease is asymptomatic or mild (WHO Stage 1 or 2). Women living with severe or advanced HIV clinical disease (WHO stage 3 or 4) and using protease inhibitors generally should not initiate use of the LNG-IUD (MEC Category 3 for initiation) until their illness has improved to asymptomatic or mild HIV clinical disease. Women using protease inhibitors who already have had an LNG-IUD inserted and who develop severe or advanced HIV clinical disease need not have their IUD removed (MEC Category 2 for continuation).
Raltegravir (integrase inhibitor)	Women using the integrase inhibitor raltegravir can use all hormonal contraceptive methods without restriction (MEC Category 1).

Topic	MEC recommendation
	Women using raltegravir can generally use the LNG-IUD (MEC Category 2), provided that their HIV clinical disease is asymptomatic or mild (WHO Stage 1 or 2). Women living with severe or advanced HIV clinical disease (WHO stage 3 or 4) and using raltegravir generally should not initiate use of the LNG-IUD (MEC Category 3 for initiation) until their illness has improved to asymptomatic or mild HIV clinical disease. Women using raltegravir who already have had an LNG-IUD inserted and who develop severe or advanced HIV clinical disease need not have their IUD removed (MEC Category 2 for continuation).

Adapted from [11■]. ART, antiretroviral therapy; ARV, antiretroviral (medication); CHC, combined hormonal contraceptive; CIC, combined injectable contraceptive; COC, combined oral contraceptive; Cu-IUD, copper-bearing IUD; DMPA, depot medroxyprogesterone acetate; ETG, etonogestrel; IM, intramuscular; IUD, intrauterine device; LNG, levonorgestrel; LNG-IUD, levonorgestrel-releasing intrauterine device; MEC, medical eligibility criteria for contraceptive use; NET-EN, norethisterone enanthate; NNRTI, nonnucleoside/nucleotide reverse transcriptase inhibitor; NRTIs, nucleoside/nucleotide reverse transcriptase inhibitor; POC, progesterone-only contraceptive; POI, progesterone-only injectable; POP, progesterone-only pill; SC, subcutaneous; SVT, superficial venous thrombosis; VTE, venous thromboembolism.

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