CLINICAL VIGNETTE

Clinical Highlights of the US Medical Eligibility Criteria for Contraception

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In the Unites States, about half of all pregnancies in women ages 15-44 are unplanned[1]. About half of the women with unplanned pregnancies were not using contraception at the time of conception[2]. The direct medical costs of unintended pregnancy in 2002 were $5 billion and the medical cost savings due to contraception were $19 billion[3]. Increasing correct use of contraception is an important goal in the primary care of women of reproductive age. Some of these women have medical conditions that may put them at increased risk of adverse maternal and fetal outcomes if they become pregnant. At the same time, there are contraceptive methods with side effects that are unacceptable in certain medical conditions. In order to offer better guidance to providers of health care for women, the World Health Organization (WHO) first published evidence-based guidelines for contraceptive use by women with medical conditions in 1996. Since then, updated guidelines have been released every few years to include more than 1,800 recommendations for 120 medical conditions[4]. In the United States, the Centers for Disease Control and Prevention (CDC), adapted these guidelines in 2010[5]. These guidelines can be accessed online at www.cdc.gov/reproductivehealth/unintendedpregnancy/USMEC.htm. The WHO and the CDC developed the CIRE (Continuous Identification of Research Evidence) a mechanism to identify evidence on an ongoing basis, as soon as it is published, in order to constantly update the specific recommendations included in the MEC criteria[6].

The Medical Eligibility Criteria for contraception were developed using systematic reviews and meta-analyses to summarize the best available evidence regarding contraceptive safety in women with various medical conditions. For every medical condition, safety was categorized from 1 (safe) to 4 (unacceptable) for each available contraceptive method, as seen in Table 1[4].

Table 1

Categories of MEC for contraception	Example of clinical use
Category 1: a condition for which there is no restriction for the use of a certain contraceptive method	Condoms
Category 2: a condition for which the advantages of using a certain method outweigh the risks	Oral hormonal contraception in a smoker younger than 35 years-old
Category 3: a condition for which the risks usually outweigh the advantages	Oral hormonal contraception in a smoker older than 35 who smokes less than 15 cigarettes a day
Category 4: a condition that represents an unacceptable health risk for a certain contraceptive method	Oral hormonal contraception in a smoker older than35 who smokes more than 15 cigarettes a day

The US MEC criteria are organized in multiple sections addressing methods of contraception available in the US: combined hormonal contraception (pill, patch, vaginal ring), progestin-only contraception (pill, injectable and implant), intrauterine contraception (copper IUD and progestin IUD), barrier methods, fertility awareness-based methods, lactational amenorrhea, coitus interruptus and sterilization (female surgical and nonsurgical sterilization and male sterilization).

The MEC categories for fertility-based awareness methods are different than the other contraceptive method, see Table 2[4].

Table 2

Categories of MEC for fertility awareness-based methods	Example of clinical use
A (accept): no medical reason to deny the method	calendar method in woman with regular menstrual cycles
C (caution): method is normally provided in a routine setting with extra preparation and precautions; special counseling might be needed to ensure correct use of the method	
D (delay): Use of this method should be delayed until the condition is evaluated or corrected. Alternative methods of contraception should be offered	acute febrile illness: basal body temperature method is not reliable irregular vaginal bleeding: calendar method is not reliable

Using MEC for Contraception in Providing Health Care for Women

When health care providers encounter a woman with a medical condition who requests guidance regarding contraception, they can access the MEC criteria and if the method they consider best for the patient is a Category 1 or 2, the contraceptive method can be used. If the method is Category 3, it is generally not recommended, unless other methods are unacceptable or unavailable. If a decision is made to provide a Category 3 method, it is imperative that the patient have regularly scheduled medical follow-up. If the method is Category 4, it should not be used[4].

Evaluating Thrombotic Risk Associated with Hormonal Contraception

A commonly encountered clinical scenario is when a provider considers the risk of thrombosis associated with various contraceptive methods. For example, women with acute or recent deep venous thrombosis (DVT), history of DVT or a thrombogenic mutation should not use combined hormonal contraception (Category 4), but they can use progestin methods (Category 2). Smokers regardless of age and number of cigarettes a day can use progestin methods (Category 2). Clinicians will have to remember that the use of combined hormonal contraception is unacceptable (Category 4) with anticipated major surgery with prolonged immobilization and advise their patients who may already use this method to stop if such surgery is planned. If there is a family history of DVT in a first degree relative, combined hormonal contraception is Category 2 and progestin-only contraception is Category 1[4].

Family History of Breast Cancer

Another common clinical question relates to the use of combined or progestin-only hormonal contraception in women with a family history of breast cancer; this method is a Category 1 in this instance[4].

Common Comorbidities

Common medical conditions encountered in primary care and the respective MEC categories for various contraceptive methods are listed in Table 3[4].

Table 3

Medical condition	Combined hormonal contraception	Progestin-only	Progestin IUD	Copper IUD
Controlled hypertension	3	1	1	1
Uncomplicated diabetes	2	2	2	1
DVT	4	2	2	2
Anemia	1	1	1	2
Breast cancer	4	4	4	1
History of breast cancer, no evidence of disease for > 5 years	3	3	3	1

Migraine Headaches

Migraine headaches are common in women of reproductive age and certain hormonal contraceptives are associated with higher risk in women with migraines. The MEC risk categories for migraine headache are listed in Table 4 where I stands for initiation and C stands for continuation of a certain method[4].

Table 4

Migraine	Combined hormonal contraception	Progestin-only	Progestin IUD	Copper IUD
without aura, age <35	2I; 3C	1I; 2C	2	1
with aura, age >35	2I; 4C	1I; 2C	2	1
with aura, age >35	4	2I; 3C	2I; 3C	1

Serious Comorbidities

There are certain medical conditions in which pregnancy confers significant risks for the mother and the baby and the US MEC defines the list of these conditions in which the use of a highly effective contraceptive method is medically necessary[4]. See Box 1

Medical conditions associated with increased risk of adverse health events as a result of unintended pregnancy
Breast cancer
Complicated valvular disease
Diabetes: insulin dependent; with nephropathy/retinopathy/neuropathy or other vascular disease, or >20 years duration
Endometrial or ovarian cancer
Epilepsy
Hypertension: Systolic >160 and/or Diastolic >100
Bariatric surgery within the past 2 years
HIV/AIDS
Ischemic heart disease
Malignant gestational trophoblastic disease
Malignant liver tumors
Peripartum cardiomyopathy
Schistosomiasis with fibrosis of the liver
Severe decompensated cirrhosis
Sickle cell disease
Solid organ transplantation within the past 2 years
Stroke
Systemic lupus erythematosus
Thrombogenic mutations
Tuberculosis

In summary, the US Medical Eligibility Criteria for contraception offer a safety guideline for various contraceptive methods in patients with different medical conditions. In addition to using this guideline, it is important to discuss other issues like efficacy, availability, patient preference and future pregnancy plans and document the discussion in the patient's medical record. US MEC will be continuously updated to reflect the best available medical evidence regarding the safety of contraceptive methods in women with medical conditions in order to help providers of health care for women determine the safest contraceptive methods for their patients.

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