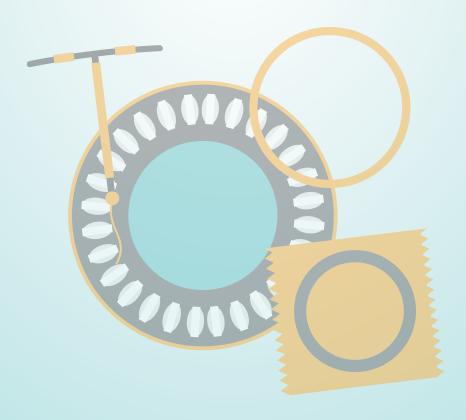


**PRACTICE ESSENTIALS** 

# **Everyday contraception considerations**

From the webcasts of Ronald T. Burkman, MD





## **EVERYDAY CONTRACEPTION CONSIDERATIONS**

From the webcasts of Ronald T. Burkman, MD

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## How to use the CDC's online tools to manage complex cases in contraception

Mastering these resources for contraception and condition compatibility could go a long way during busy days of patient care

ou have a busy clinical practice, with new patients coming in all the time. One conversation you will have with almost every one of your patients, new and long-time, young and middle-aged, is one focused on her best options for contraception. In a new Webcast series at obgmanagement.com, I focus solely on contraception: factors that contribute to efficacy, management for women with varying conditions (such as obesity, headache, and breast cancer), and emergency and long-acting reversible options. Tune in to my webcasts for full details and key takeaways.

Here, I offer important points from my webcasts, including my first offering in which I center in on how to use the website of the Centers for Disease Control and Prevention (CDC) to manage cases in complex contraception (because, as we all know, a patient's best contraceptive option may not always be straightforward). Since you may have only a few minutes to sort it all out, I propose that a good resource in such cases is the CDC. Let's begin with a case.

### **CASE** Contraception for a complex patient

A 34-year-old patient who delivered 10 weeks ago just moved to your area and presents to your office for routine care. She stopped breastfeeding and currently is using condoms for birth control. Now she expresses interest in beginning interval contraception. How do you counsel her on ideal contraceptive options?

## **Complicating factors**

There are several aspects of this patient's recent pregnancy, medical history, and current medications that are relevant to your counseling approach. First, you find out that this patient's pregnancy was complicated by chronic hypertension and a seizure disorder. She also is currently taking carbamazepine and hydrochlorothiazide. She has a history of salpingostomy for an ectopic pregnancy and has undergone a Roux-en-Y gastric bypass procedure. She also has had pelvic inflammatory disease (PID) in the past and has a history of occasional heavy menstrual flow.

The problems, in terms of what affects her choice of contraception, are:

- the seizure disorder, hypertension, and PID
- · the salpingostomy and gastric bypass

## Conditions and contraceptive type

Condition	Sub-condition	Combined pill,	patch, ring		rrogestin-only pin	Tailookioa	macnon	Implant	mpram	GDI-9NT		Conner-IIID	Copperation			
		I	C	I	C	I	C	I	C	I	C	I	C			
Diabetes mellitus	(i) non-insulin dependent	2		1	2		2	- 1	2	2		1				
(cont.)	(ii) insulin dependent[	2		2		2		2		2		1				
	<ul> <li>c) Nephropathy/ setinopathy/ neuropathy‡</li> </ul>			- 2	2		3	- 1	2	2		1				
	d) Other vascular disease or diabetes of >20 years' duration]			2	2		3	1	!	2		1				
Endometrial cancer[		1			1		1		1	4	2	4	2			
Endometrial Invoerolasia		1		1		1		1	1 1		1		1		1	
hyperplasia Endometriosis		٠,		-			,			٠,		- 1				
Epilepsy:	(see also Drug Interactions)	ľ	•	1	•	1	•	1	•	1		1				
Galibladder	a) Symptomatic															

Listed conditions in the contraception summary chart and their corresponding compatibility with varying contraceptive methods.

- her current medications
- her menstrual history.

## What your government can offer you

The CDC has a number of very helpful websites, including the US Medical Eligibility Criteria for Contraceptive Use (<a href="http://www.cdc.gov/reproductivehealth/unintended">http://www.cdc.gov/reproductivehealth/unintended</a> pregnancy/usmec.htm).

Once you click through to this site, the page will generate a summary chart that, when showing green, indicates that a specific form of contraception is okay to use. If you see pink or red, that form of contraception is not acceptable.

Along the Y axis are a number of conditions or particular medications that raise potential issues when it comes to contraceptive practice. Along the X axis are the contraceptive approaches—combination hormonal oral contraceptives (OCs), progestin-only OCs, injectible contraception (medroxyprogesterone), the implant, the levonorgestrel-releasing intrauterine system (LNG-IUS), and the copper intrauterine device (IUD).

For our case patient, if you zoom in on epilepsy and look across the Y axis for the appropriate contraceptive choices, you see that epilepsy by itself does not preclude any birth control option (FIGURE). But if you look at each issue raised in evaluating

### How to use the CDC's online tools to manage complex cases in contraception

continued from page 3

the case patient you would find, for instance, that her hypertension puts combined hormonal OCs in the pink or red. Her seizure medication places her in the pink or red for hormonal OCs as well as for progestin-only OC. Her prior gastric bypass makes combined hormonal and progestin-only OCs not ideal.

There are a number of methods that show green for all the medical, surgical, and medication issues that this patient has, including medroxyprogesterone, the implant, the LNG-IUS, and the copper IUD. Given this patient's occasional heavy menstrual cycles, use of the LNG-IUS might be an appropriate option if she would like to use this method.

#### More resources

The CDC also offers a "sister program" to the medical eligibility criteria: US Selected Practice Recommendations (US SPR) for Contraceptive Use, 2013 (<a href="http://www.cdc.gov/reproductive-health/UnintendedPreg-nancy/USSPR.htm">http://www.cdc.gov/reproductive-health/UnintendedPreg-nancy/USSPR.htm</a>). <sup>2</sup> The selected practice recommendations cover what screening should be done prior to contraceptive use, how to manage missing strings, and a

variety of other issues that we must address in our contraceptive practice.

For the downloadable app, search in the App Store under "CDC" and then "Contraception." Another app that appears in this list of search results that I find particularly useful is "STD Treatment App."

#### A time saver

After learning to use these programs, particularly the US Medical Eligibility Criteria for Contraceptive Use program, you will find that it takes only a few minutes to solve most of your complicated contraceptive cases.

#### References

- U.S. Medical Eligibility Criteria (US MEC) for Contraceptive Use, 2010. Centers for Disease Control and Prevention Web site. http://www.cdc.gov/reproductivehealth/unintended pregnancy/USMEC.htm. Updated September 11, 2015. Accessed September 17, 2015.
- U.S. Selected Practice Recommendations (US SPR) for Contraceptive Use, 2013. Centers for Disease Control and Prevention Web site. http://www.cdc.gov/reproductivehealth /UnintendedPregnancy/USSPR.htm. Updated September 11, 2015. Accessed September 17, 2015.

To view this webcast click here: <a href="http://www.mdedge.com/obgmanagement/article/103292/contraception/webcast-how-use-cdcs-online-tools-manage-complex-cases">http://www.mdedge.com/obgmanagement/article/103292/contraception/webcast-how-use-cdcs-online-tools-manage-complex-cases</a>

Published October 8, 2015

## Obesity and contraceptive efficacy and risks

## What you should know before counseling your obese patients on choosing a contraceptive

ince 1980, the frequency of obesity in women of reproductive age has doubled. Currently, about one-third of women in this age group is obese.¹ Providing contraceptive care to these women is important, as are identifying and understanding the particular issues that pertain to that care.

There are 3 main issues to consider for contraceptive care and obesity. First, since hormonal contraceptives require systemic distribution, there is a theoretical risk of decreased efficacy in standard doses due to the larger mass distribution in an obese woman. Intrauterine devices (IUDs) work locally. As such, they are effective in obese women. Second, women who are obese face a number of health risks, including venous thromboembolism (VTE). Given the additional risk for VTE that hormonal contraceptives pose, are estrogen-containing contraceptives safe for use in this population? Finally, how does bariatric surgery affect the efficacy of hormonal contraceptives, since these procedures affect absorption of a variety of materials as they traverse the gut?

## Hormonal contraception and efficacy

A recent Cochrane review² examined the efficacy studies involving obese and overweight women. The investigators looked at 11 trials involving more than 38,000 women. There was only one randomized controlled trial included, and data showed that higher body mass index (BMI) was associated with a higher pregnancy rate for lower-dose oral contraceptives (OCs). The OC in this case was ethinyl estradiol 20  $\mu$ g. With the patch, higher body weight (approximately 190–200 lb), but not BMI, was associated with pregnancy risk. The studies of the vaginal ring did show higher pregnancy rates, albeit small increases, when weight was greater than 70 kg. Finally, 2 implant studies showed no trend by body weight.

It is interesting to note that the Choice Project investigators did not find differences in efficacy by BMI for users of combination OCs, the patch, or the ring as a total group.<sup>3</sup> Unfortunately, the published analysis, at least to date, has not separated out each contraceptive method.

Unfortunately, most randomized trials examining contraceptive efficacy exclude obese women. For example, the trials that have led to contraceptive approvals through the US Food and Drug Administration, in general, use 130% of ideal body weight as their upper limit for study inclusion. This leaves us with limited

observational studies (which have an increased risk of bias and confounding) contributing most of the data to inform our knowledge of contraceptive efficacy in obese women.

## How do you proceed?

The Centers for Disease Control and Prevention (CDC) suggests that benefits outweigh risks in obese women for use of OCs, the patch, and the ring, with no restrictions for other forms of contraception.<sup>4</sup>

### Added VTE risk in obese women

There are limited data examining VTE risk and hormonal contraceptive use in obese women. Authors of a Dutch case control study<sup>5</sup> did find that OC users with a BMI greater than 25 kg/m<sup>2</sup> (which includes overweight and obese women) had about a 10-fold increased risk of VTE than women with a BMI less than 25 kg/m<sup>2</sup>. Similarly, data from a British case control study<sup>6</sup> showed an increased VTE risk with BMI greater than 25 kg/m<sup>2</sup>. The authors found an even higher VTE risk when the BMI level reached 35 kg/m<sup>2</sup>.

## Should you recommend an OC for your obese patient?

The data to inform us of an added VTE risk in obese women are very limited, with lots of confounding and difficulty controlling for other risk factors. As such, the CDC has placed no restrictions on any form of contraception related to VTE risk.<sup>4</sup> The American College of Obstetricians and Gynecologists has been somewhat more conservative, however, suggesting that consideration should be given to progestin-only forms of birth control and IUDs.<sup>7</sup>

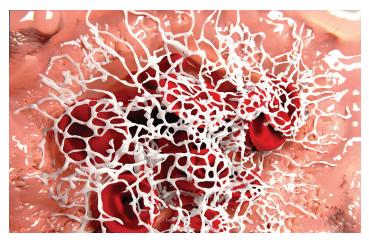
## Does bariatric surgery decrease OC efficacy?

This is a question that has not been studied adequately.<sup>8</sup> There is a single study, which is cited often, that demonstrated 2 failures out of 9 OC users.<sup>9</sup> The 2 women became pregnant after biliopancreatic diversion procedures. In another study of 7 morbidly obese women (BMI >40 kg/m²) after jejunoileal bypass, all of the women had decreased levels of OC steroids compared with controls, suggesting that OCs may not reach effective levels in obese women.<sup>10</sup>

It is important to recognize that not all bariatric surgery

### Obesity and contraceptive efficacy and risks

continued from page 5



Compared with normal-weight women, obese women have an elevated risk of blood clots. This fact raises the question of whether estrogen-containing contraceptives are safe for use in obese women.

procedures work the same way. They can be divided into 2 categories: malabsorptive and restricted procedures. Malabsorptive procedures include the classic Rouz-en-Y bypass, which decrease absorption. Restricted procedures (banding) essentially reduce the size of the stomach.

## How do you proceed?

Although the data are limited, the CDC recommends against using OCs in the presence of malabsorptive procedures, since absorption is required for these drugs to be distributed. There are no restrictions to the ring, patch, injectible, implant, or levonorgestrel-releasing IUD, however, since they bypass the gastrointestinal system.

## My recommendations

Obesity may result in some decrease in efficacy, but to what extent is unknown since the data are limited. Some data, from

studies with limited power, indicate that the levonorgestrel and ulipristal emergency contraceptives also may have decreased efficacy in obese women.

You should not avoid use of these emergency contraceptive options if your patient requests them, but you could consider the copper IUD, which is the most effective form of emergency contraception. The copper IUD also is an appropriate contraceptive method for many obese women, particularly if you leave it in as a long-acting contraception after its use as an emergency method.

Since VTE can be life threatening in obese women, particularly at age 30 or older, strongly consider not using estrogencontaining contraceptive methods for this group.

It is prudent to avoid OCs in women who have undergone malabsorptive bariatric procedures.

I urge you to use the CDC's Medical Eligibility Criteria database<sup>2</sup> to evaluate the pros and cons of using particular contraceptive methods in women with medical conditions.

#### References

- Flegal KM, Carroll MD, Ogden CL, Curtin LR. Prevalence and trends in obesity among US adults, 1999-2008. JAMA. 2010;303(3):235–2341.
- Lopez LM, Grimes DA, Chen M, et al. Hormonal contraceptives for contraception in overweight or obese women. Cochrane Database Syst Rev. 2013;(4):CD008452.
- McNicholas C, Zhao O, Secura G, et al. Contraceptive failures in overweight and obese combined hormonal contraceptive users. Obstet Gynecol. 2013;121(3):585–592.
- Centers for Disease Control and Prevention. U.S. Medical Eligibility Criteria for Contraceptive Use, 2010. MMWR Early Release. 2010;59(May 28):1–86. http://www.cdc.gov/mmwr/pdf/rr/rr59e0528.pdf. Accessed December 16, 2016.
- Abdollahi M, Cushman M, Rosendaal FT. Obesity: risk of venous thrombosis and the interaction with coagulation factor levels and oral contraceptive use. Thromb Haemost. 2003;89(3):493–498.
- Nightingale AL, Lawrenson RA, Simpson EL, Williams TJ, MacRae KD, Farmer RD.
   The effects of age, body mass index, smoking and general health on the risk of venous thromboembolism in users of combined oral contraceptives. Eur J Contracept Reprod Health Care. 2000;5(4):265–274.
- American College of Obstetricians and Gynecologists Committee on Practice Bulletins– Gynecology. ACOG Practice Bulletin No. 73: use of hormonal contraception in women with coexisting medical conditions. Obstet Gynecol. 2006;107(6):1453–1472.
- Adelman A. Contraceptive considerations in obese women. Contraception. 2009; 80(6):583–590.
- Gerrits EG, Ceulemans R, van Hee R, Hendrickx L, Totte E. Contraceptive treatment after biliopancreatic diversion needs consensus. Obes Surg. 2003;13(3):378–382.
- Victor A, Odlind V, Kral JG. Oral contraceptive absorption and sex hormone binding globulins in obese women: effects of jejunoileal bypass. Gastroenterol Clinics North Am. 1987;16(3):483–491.

To view this webcast click here: <a href="http://www.mdedge.com/obgmanagement/article/105530/contraception/webcast-obesity-and-contraceptive-efficacy-and-risks">http://www.mdedge.com/obgmanagement/article/105530/contraception/webcast-obesity-and-contraceptive-efficacy-and-risks</a>

Published January 4, 2016

## Factors that contribute to overall contraceptive efficacy and risks

To view this webcast click here: <a href="http://www.mdedge.com/obgmanagement/article/107005">http://www.mdedge.com/obgmanagement/article/107005</a> /contraception/webcast-factors-contribute-overall-contraceptive-efficacy

Published March 4, 2016

## Efficacy of contraceptives

Use 2 methods to evaluate contraceptive efficacy:

- Pearl Index
- Life Table Analysis

Encourage use of LARCs

Use strategies to reduce unintended pregnancy rate

## **Providing LARC methods** of contraception to adolescents

To view this webcast click here: http://www.mdedge.com/obgmanagement /article/137253/webcast-providing-larc-methods-contraception-adolescents

Published May 3, 2016

## Outcomes: US teens vs CHOICE teens, ages 15-19 years (per 1,000 teens)

Outcomes	US: All teens 2010	US: Sexually active teens 2008	CHOICE: All teens 2008–2013*
Pregnancy	57.4	158.5	34.0
Birth	34.4	94.0	19.4
Abortion	14.7	41.5	9.7

<sup>\*</sup>Mean per 1,000 teens.

Reference:
Secura GM, Madden T, McNicholas C, et al. Provision of no-cost, long-acting contraception and teenage pregnancy.
N Engl J Med. 2014;371(14):1316–1323.

## Oral contraceptives and breast cancer: What's the risk?

Does the use of oral contraceptives, particularly the presence of estrogen and progesterone, increase the risk of breast cancer? And what about a patient who has a *BRCA* gene mutation, is her risk altered by her genetic mutation? What the data tell us.

valuating for the presence of a relationship between oral contraceptives (OCs) and breast cancer is a difficult topic to study because many factors influence breast cancer risk, among them genetic, growth, and tissue factors. The genetic factors include repressor genes, which reduce the risk of cancer, as well as proto-oncogenes, which have the potential to convert from normal cells to active oncogenes (TABLE). Growth factors also play a role, particularly estrogen and progesterone (which can independently affect the growth of breast cancer tumors), epithelial growth factor, transforming growth factor alpha, and others. In addition, tissue factors—including the basement membrane structure, immune shielding, and angiogenesis—are important in the early development of breast cancer.

Trying to tease out the possible breast cancer risk associated with hormonal contraceptives from the multiple possible contributors to overall risk is a daunting task for many epidemiologists. Keep in mind that there is often a 5-year (or longer) time frame from tumor initiation until diagnosis by mammography or physical examination (FIGURE, page 10). Thus, research studies conducted in a particular time frame may reflect contraceptive use a number of years before the research began and may not reflect patients' current contraceptive use.

Nevertheless, patients may be concerned about OC use and the risk of breast cancer, and may ask you as their contraceptive expert if there is an association. In this article, I review the major publications addressing this issue.

## OCs and breast cancer risk overall

Results from the following 3 major studies examine appropriately the role of OC use in breast cancer.

**Collaborative reanalysis.** The Collaborative Group on Hormonal Factors in Breast Cancer conducted a large meta-analysis involving 54 studies. Of note, the investigators actually obtained raw data from these 54 studies and conducted their own analysis, which was published in 1995. The total number of women studied included 53,297 with breast cancer and 100,239 controls.

## **TABLE** Factors in the early development of breast cancer\*

Genetic factors	Growth factors	Tissue factors			
+ Repressor genes	+ Estrogen	Basement membranes			
- Proto-oncogenes	+ Progesterone	Immune shielding			
	+ EGF, TGFα	Angiogenesis			
	+ Insulin				

Abbreviations: EGF, epithelial growth factor;  $TGF\alpha$ , transforming growth factor alpha.

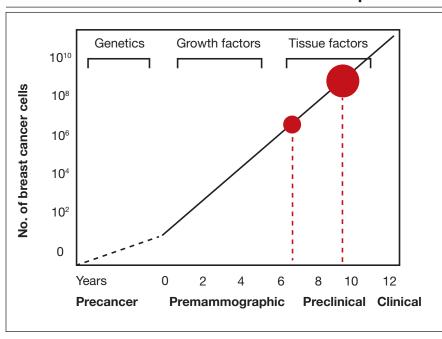
According to the reanalyzed evidence, OC users younger than 35 years had a slightly higher risk of being diagnosed with breast cancer (relative risk [RR], 1.24; 95% confidence interval [CI], 1.15–1.35) than women not using OCs, but the risk declined over time for past users. By age 50, the cumulative risk of breast cancer diagnosis was the same in OC users and nonusers. There was no evidence that OCs, including higher-dose formulations, increased the risk of breast cancer even with longer duration of use. There was no indication that family history modified the risk.<sup>1</sup>

When increases in breast cancer risk are seen in observational studies, the findings could be due to bias, and in this particular instance, detection bias. This could be because OC users undergo more frequent breast examinations than women who do not need to return to their clinician annually for prescriptions. On the other hand, it may reflect that OCs promote some growth of preexisting tumors but are not the etiologic agent.

Case-control study. The Women's CARE (Contraceptive and Reproductive Experiences) Study was a case-control design, with results published in 2002.<sup>2</sup> It was conducted in sites across the United States, and it likely reflects our population. The controls were population-based and were obtained through random-digit dialing. When collected in this manner, the bias that could potentially be introduced with obtaining controls from clinics or

<sup>\*+ =</sup> increases the risk of breast cancer. - = decreases the risk of breast cancer.

FIGURE Time course of breast cancer development



hospitals, for example, may be reduced. The study included 4,575 women with invasive breast cancer and 4,682 controls. Study participants were aged 35 to 64 years, and data were collected from 1994 to 1998.

Of note, 77% of case participants and 79% of controls had used OCs, a fact that highlights the difficulty of trying to determine what role OCs may play in breast cancer since they are used widely. The study results showed no increased risk of breast cancer in women who had ever used any type of OC among women aged 35 to 64 years (RR, 0.9; 95% Cl, 0.8–1.0). Current or former OC use was not associated with increased risk of breast cancer. In addition, no increased risk was seen for longer periods of use or for higher doses of estrogen. Finally, neither initiation of OC use at a young age nor family history of breast cancer was associated with increased risk.

Large meta-analysis. A 2013 systematic review and meta-analysis by Gierisch and colleagues, sponsored by the Agency for Healthcare Research and Quality (AHRQ) and the Centers for Disease Control and Prevention (CDC), included a number of studies completed since the year 2000.3 Twenty-three studies—15 case-control and 8 cohort studies—met criteria for meta-analysis to evaluate the association between OC use (ever-use vs never-use) and breast cancer incidence. More than 350,000 women were included in this analysis. (This review also examined OC use on risk of cervical, colorectal, and endometrial cancers.)

Again, the researchers found that the risk of breast cancer was exceedingly low among ever-users (odds ratio [OR], 1.08; 95% CI, 1.00–1.17). The risk was higher in women with recent OC use, and the risk decreased over time. There was no effect on

risk according to duration of use. Importantly, the approximate increase in the lifetime risk of breast cancer among ever-users of OCs, based on these data, was 0.89%.

## Does BRCA gene mutation affect breast cancer risk with OC use?

In a 2013 study sponsored by the AHRQ and CDC, Moorman and colleagues performed a metaanalysis to examine the potential contribution of BRCA gene mutations to the risk of breast cancer among OC users. (The risk of ovarian cancer associated with OC use also was examined.) Five total studies, 3 case-control and 2 cohort, pertained to the breast cancer analysis and included 4,555 patients (in 4 studies) and 65,180 personyears (in 1 study).

Investigators found that the overall risk of breast cancer associated with OC use in women who were *BRCA* mutation carriers was roughly in range of the other studies discussed herein. Furthermore, the calculated OR did not reach statis-

tical significance (OR, 1.21; 95% CI, 0.93-1.58). There was no effect on risk with duration of use.

Unfortunately, data analysis was hampered by the small number of studies and suitable number of participants, and the data were inadequate to analyze the effect of positive family history of breast cancer among individuals who were positive for a *BRCA* mutation.

## Breast cancer risk with progestin-only contraceptives

In a 2016 systematic analysis, Samson and colleagues examined all epidemiologic studies conducted from 2000 to 2015. Due to a paucity of studies and quality of data, only 6 studies that evaluated the risk of breast cancer among users of progestin-only (non-estrogen-containing) contraceptive methods underwent analysis.<sup>5</sup>

Five of the 6 studies reported no association between breast cancer risk and use of any form of progestin-only contraceptive. As progestins are used in various formulations for contraception, such as injectables, implants, and the levonorgestrel intrauterine system, the data were insufficient to analyze breast cancer risk by method. More rigorous study design is needed due to this study's overall small sample sizes, variation in progestins and administration routes, and heterogeneity of the study locations.

## My bottom line

There is minimal, if any, risk of breast cancer with OC use. The

### Oral contraceptives and breast cancer: What's the risk?

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reported low risk could be due to bias, particularly detection bias, or could represent stimulation of a tumor that is already present (as opposed to OCs being an etiologic agent). It is important to keep in mind that the reduced risk of ovarian and endometrial cancer associated with hormonal contraceptive use likely outweighs any potential breast cancer risk.

There is no evidence that presence of a *BRCA* mutation significantly affects the risk of breast cancer with OC use. Further, there is no evidence that progestin-only contraceptives increase breast cancer risk, but data are inadequate. As always, consulting the CDC's Medical Eligibility Criteria database<sup>6</sup> can assist in your care of patients with complicated conditions who request contraception.

#### References

- Collaborative Group on Hormonal Factors in Breast Cancer. Breast cancer and hormonal contraceptives: further results. Contraception. 1996;54(3 suppl):1S-106S.Marchbanks PA, McDonald JA, Wilson HG, et al. Oral contraceptives and the risk of breast cancer. N Engl J Med. 2002;346(26):2025-2032.
- Gierisch JM, Coeytaux RR, Urrutia RP, et al. Oral contraceptive use and risk of breast, cervical, colorectal, and endometrial cancers: a systematic review. Cancer Epidemiol Biomark Prev. 2013;22(11):1931–1943.
- Moorman PG, Havrilesky LJ, Gierisch JM, et al. Oral contraceptives and risk of ovarian cancer and breast cancer among high-risk women: a systematic review and metaanalysis. J Clin Oncol. 2013;31(33):4188–4198.
- Samson M, Porter N, Orekoya O, et al. Progestin and breast cancer risk: a systematic review. Breast Cancer Res Treat. 2016;155(1):3–12.
- Centers for Disease Control and Prevention. United States medical eligibility criteria (US MEC) for contraceptive use. MMWR Recomm Rep. 2010;59(RR-4):1–86. http://www.cdc.gov/reproductivehealth/unintendedpregnancy/usmec.htm. Accessed May 18, 2016.

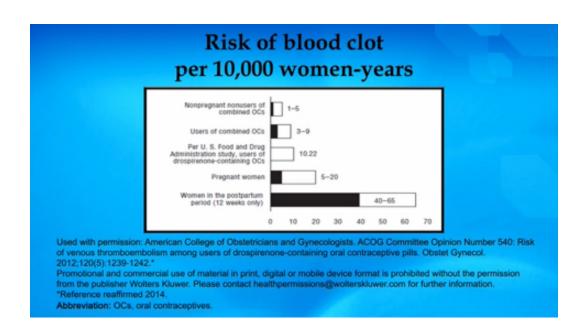
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Published June 6, 2016

## Hormonal contraception and risk of venous thromboembolism

To view this webcast click here: <a href="http://www.mdedge.com/obgmanagement/article/110491">http://www.mdedge.com/obgmanagement/article/110491</a> /contraception/webcast-hormonal-contraception-and-risk-venous

Published July 21, 2016



## Contraceptive considerations for women with headache and migraine

he use of hormonal contraception in women with headaches, especially migraine headaches, is an important topic. Approximately 43% of women in the United States report migraines.¹ Roughly the same percentage of reproductive-aged women use hormonal contraception.² Data suggest that all migraineurs have some increased risk of stroke. Therefore, can women with migraine headaches use combination hormonal contraception? And can women with severe headaches that are nonmigrainous use combination hormonal contraception? Let's examine available data to help us answer these questions.

## Risk factors for stroke

Migraine without aura is the most common subset, but migraine with aura is more problematic relative to the increased incidence of stroke.<sup>1</sup>

A migraine aura is visual 90% of the time.¹ Symptoms can include flickering lights, spots, zigzag lines, a sense of pins and needles, or dysphasic speech. Aura precedes the headache and usually resolves within 1 hour after the aura begins.

In addition to migraine headaches, risk factors for stroke include increasing age, hypertension, the use of combination oral contraceptives (COCs), the contraceptive patch and ring, and smoking.<sup>1</sup>

Data indicate that the risk for ischemic stroke is increased in women with migraines even without the presence of other risk factors. In a meta-analysis of 14 observational studies, the risk of ischemic stroke among all migraineurs was about 2-fold (relative risk [RR], 2.2; 95% confidence interval [CI], 1.9–2.5) compared with the risk of ischemic stroke in women of the same age group who did not have migraine headaches. When there is migraine without aura, it was slightly less than 2-fold (RR, 1.8; 95% CI, 1.1–3.2). The risk of ischemic stroke among migraineurs with aura is increased more than 2 times compared with women without migraine (RR, 2.27; 95% CI, 1.61–3.19). However, the absolute risk of ischemic stroke among reproductive-aged women is 11 per 100,000 women years. 4

Two observational studies show how additional risk factors increase that risk (TABLE).<sup>5,6</sup> There are similar trends in terms of overall risk of stroke among women with all types of migraine. However, when you add smoking as an additional risk factor for women with migraine headaches, there is a substantial increase in the risk of stroke. When a woman who has migraines uses COCs, there is increased risk varying from 2-fold to almost 4-fold. When you combine migraine, smoking, and COCs, a very, very

large risk factor (odds ratio [OR], 34.4; 95% CI, 3.27–3.61) was reported by Chang and colleagues.<sup>6</sup>

Although these risks are impressive, it is important to keep in mind that even with a 10-fold increase, we are only talking about 1 case per 1,000 migraineurs.<sup>4</sup> Unfortunately, stroke often leads to major disability and even death, such that any reduction in risk is still important.

## Preventing estrogen withdrawal or menstrual migraines

How should we treat a woman who uses hormonal contraception and reports estrogen withdrawal or menstrual migraines? Based on clinical evidence, there are 2 ways to reduce her symptoms:

- **COCs.** Reduce the hormone-free interval by having her take COCs for 3 to 4 days instead of 7 days, or eliminate the hormone-free interval altogether by continuous use of COCs, usually 3 months at a time.<sup>7</sup>
- NSAIDs. For those who do not want to alter how they take their hormonal product, use nonsteroidal anti-inflammatory drugs (NSAIDs) starting 7 days before the onset of menses and continuing for 13 days. In a clinical trial by Sances and colleagues, this plan reduced the frequency, duration, and severity of menstrual migraines.<sup>8</sup>

Probably altering how she takes the COC would make the most sense for most individuals instead of taking NSAIDs for 75% of each month.

### Recommendations from the US MEC

The US Medical Eligibility Criteria (US MEC) from the Centers for Disease Control and Prevention (CDC) offers recommendations for contraceptive use<sup>9</sup>:

## Migraine headache and the risk of stroke

Risk factors	Tzourio,⁵RR	Chang,6 OR
Migraine	3.5	3.7
Migraine + smoking	10.2	7.4
Migraine + COCs	13.9	6.6
Migraine + smoking + COCs	-	34.4

Abbreviations: COCs, combination oral contraceptives; OR, odds ratio; RR, relative risk.

### Contraceptive considerations for women with headache and migraine

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- For nonmigrainous headache, the CDC suggests that the benefits of using COCs outweigh the risks unless the headaches persist after 3 months of COC use.
- For migraine without aura, the benefits outweigh the risks in starting women who are younger than age 35 years on oral contraceptives. However, the risks of COCs outweigh the benefits in women who are age 35 years and older who develop migraine headache while on COCs, or who have risk factors for stroke.
- For migraine with aura, COCs are contraindicated.
- Progestin-only contraceptives. The CDC considers that the benefits of COC use outweigh any theoretical risk of stroke, even in women with risk factors or in women who have migraine with aura. Progestin-only contraceptives do not alter one's risk of stroke, unlike contraceptives that contain estrogen.

## My bottom line

Can women with migraine headaches begin the use of combination hormonal methods? Yes, if there is no aura in their migraines and they are not older than age 35.

Can women with severe headaches that are nonmigrainous use combination hormonal methods? Possibly, but you should discontinue COCs if headache severity persists or worsens, using a 3-month time period for evaluation.

How do you manage women with migraines during the hormone-free interval? Consider the continuous method or shorten the hormone-free interval.

Recommendations for complicated patients. Consulting the CDC's US MEC database<sup>7</sup> can provide assistance in your care of more complicated patients requesting contraception. I also recommend the book, "Contraception for the Medically Challenging Patient," edited by Rebecca Allen and Carrie Cwiak.¹⁰ It links nicely with the CDC guidelines and presents more detail on each subject. ■

#### References

- Stewart WF, Wood C, Reed MD, et al. Cumulative lifetime migraine incidence in women and men. Cephalalgia. 2008;28(11):1170–1178.
- Finer LB, Frohwirth LF, Dauphinee LA, Singh S, Moore AM. Reasons U.S. women have abortions: quantitative and qualitative perspectives. Perspect Sex Reprod Health. 2005;37(3):110–118.
- Etminan M, Takkouche B, Isorna FC, Samii A. Risk of ischemic stroke in people with migraine: systematic review and meta-analysis of observational studies. BMJ. 2005;330(7482):63–66.
- Petitti DB, Sydney S, Bernstein A, Wolf S, Quesenberry C, Ziel HK. Stoke in users of lowdose oral contraceptives. N Engl J Med. 1996;335(1):8–15.
- Tzourio C, Tehindrazanarivelo A, Iglesias S, et al. Case-control study of migraine and risk of ischemic stroke in young women. BMJ. 1995;310:830–833.
- Chang CL, Donaghy M, Poulter N. Migraine and stroke in young women: case-control study. The World Health Organisation Collaborative Study of Cardiovascular Disease and Steroid Hormone Contraception. BMJ. 1999;318(7175):13–18.
- Edelman A, Gallo MF, Nichols MD, Jensen JT, Schulz KF, Grimes DA. Continuous versus cyclic use of combined oral contraceptives for contraception: systematic Cochrane review of randomized controlled trials. Hum Reprod. 2006;21(3):573–578.
- Sances G, Martignoni E, Fioroni L, Blandini F, Facchinetti F, Nappi G. Naproxen sodium in menstrual migraine prophylaxis: a double-blind placebo controlled study. Headache. 1990;30(11):705–709.
- US Medical Eligibility Criteria for Contraceptive Use, 2010. MMWR Recomm Rep. 2010;59(RR-4):1–86. https://www.cdc.gov/mmwr/pdf/rr/rr59e0528.pdf. Accessed October 4, 2016.
- Allen RH, Cwiak CA, eds. Contraception for the medically challenging patient. New York, New York: Springer New York; 2014.

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## **Emergency contraception:** How to choose the right one for your patient

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## Other comparisons of oral EC preparations

	ulipristal	levonorgestrel
Pregnancy, obese (BMI ≥ 30)	2.6%	5.8%
Pregnancy, further intercourse that cyclella	5.6%	7.3%
Nausea	12%	<20%
Cost (online sources)	\$67	\$20

- References

  1. Glasier A, Cameron ST, Blithe D, et al. Can we identify women at risk of pregnancy despite using emergency contraception? Data from randomized trials of ulipristal acetate and levonorgestrel. Contraception. 2011;84(4) 363-367.

  2. Cleland K, Raymond EG, Westley E, Trussell J. Emergency contraception review: evidence-based recommendations for clinicians. Clin Obstet Gynecol. 2014;57(4):741-750.

  3. Trussell J, Raymond EG, Cleland K. Emergency contraception: a last chance to prevent unintended pregnancy. Princeton University Office of Population Research. http://ec.princeton.edu/questions/ce-review.pdf. Published November 2016. Accessed September 13, 2016.

Abbreviation: BMI, body mass index; EC, emergency contraception.