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Choosing the Right Pill

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38th Annual Contemporary Issues in Obstetrics and Gynecology, 2024

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Disclosures

- Speaker – Astellas
- America's Board Review – Q bank contributor

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Objectives

- **Describe** the categories of contraceptive pills.
- **Identify** individuals who require tailored OCP (Oral Contraceptive Pill) selection.
- **Apply** the US Medical Eligibility Criteria to determine appropriate OCP selection.
- **Analyze** the side effects associated with different contraceptive pills.

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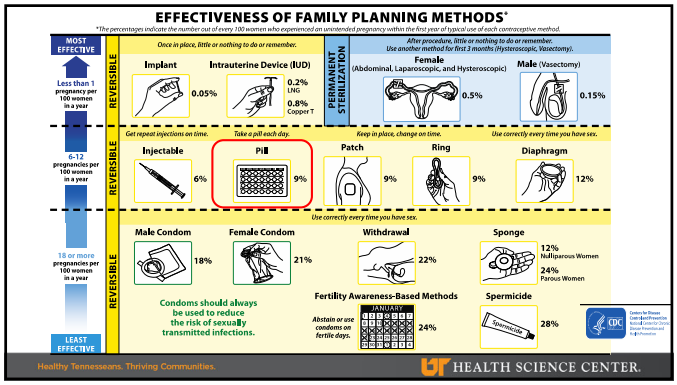

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WHO MEDICAL ELIGIBILITY CRITERIA CLASSIFICATION CATEGORIES

Classification	With clinical judgment	With limited clinical judgment
1	Use method in any circumstances	Yes Use the method
2	Generally use: advantages outweigh risks	Yes Use the method
3	Generally do not use: risks outweigh advantages	No Do not use the method
4	Method not to be used	No Do not use the method

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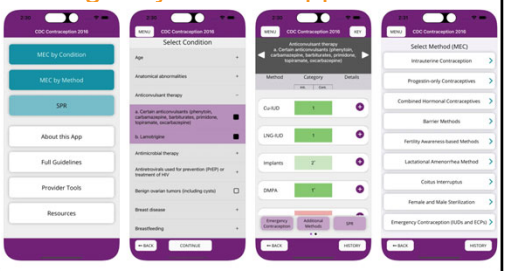
US Medical Eligibility Criteria App

US MEC
US SPR
CDC



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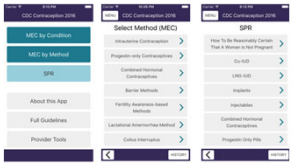
US MEC SPR



SPR quick reference charts

- When to start contraceptive methods and routine follow up
- What to do for late, missed or delayed combined hormonal contraception
- Management of IUD when PID is found
- Management of women with bleeding irregularities while using contraception

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US MEC for Combined Hormonal Contraceptive (CHC)

- Note that US MEC is for all CHC - pill, patch and ring
- For the purpose of this presentation, we will be referring only to pill selection

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Development of the First Clinical Contraceptive

Initial Progestogen Dose Determination	Managing Irregular Bleeding	Dosage Reduction Process	Establishing Minimal Effective Dose

• **Progestogen Dose:** Selected to produce secretory changes in the estrogen-primed endometrium.
• **Clinical Trials:** First used in contraceptive studies.
	• **Issue:** Irregular bleeding with progestogen use.
	• **Solution:** Added estrogens in amounts that could nearly block ovulation.
		• **Empirical Approach:** Reduced E/P dosage until unacceptable pregnancy rates or irregular bleeding occurred.
		• **Adjustment:** Increased estrogen dose to achieve acceptable contraceptive efficacy and bleeding regulation.
			• **Non-Tailored Doses:** Not customized for individuals.
			• **Interindividual Variation:** Factors include:
			  • Body weight
			  • Absorption
			  • Tissue receptor levels
			  • Metabolism
			  • Diet
			  • Drug interactions

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OCPs – What you need to know

- Combined estrogen and progesterone pills
- How it works?
  - Suppresses ovulation
  - Thickens cervical mucus
  - Thins the endometrium to prevent implantation

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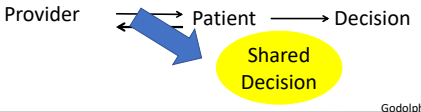
Shared Decision Making

The patient and provider work together as a team to make decisions based on the best medical evidence available and the patient's values and beliefs.



Godolphin, *Health Q*, 2009

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Contraindications to combined hormonal methods

- Smoker age ≥ 35
- Migraine WITH aura or focal neuro symptoms
- H/o Stroke
- Ischemic heart disease
- Estrogen-dependent tumor – personal history of breast cancer
- Uncontrolled HTN
- Cirrhosis
- H/o DVT/PE, MI, CVA, hypercoagulable state
- SLE with +/unknown APLA

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Migraine – Diagnostic Criteria

Box 3. Diagnostic Criteria for Migraine With and Without Aura

Migraine Without Aura	Migraine With Aura
A. At least five lifetime attacks fulfilling criteria B–D	A. At least two attacks fulfilling criteria B and C
B. Headache attacks lasting 4–72 hours (untreated or unsuccessfully treated)	B. One or more of the following fully reversible aura symptoms: 1. visual 2. sensory 3. speech and/or language 4. motor 5. brainstem 6. retinal
C. Headache has at least two of the following four characteristics: 1. unilateral location 2. pulsating quality 3. moderate or severe pain intensity 4. aggravation by or causing avoidance of routine physical activity (eg, walking or climbing stairs)	C. At least three of the following six characteristics: 1. at least one aura symptom spreads gradually over ≥5 minutes 2. two or more aura symptoms occur in succession 3. each individual aura symptom lasts 5–60 minutes 4. at least one aura symptom is unilateral 5. at least one aura symptom is positive (ie, scintillations or pins and needles) 6. the aura is accompanied, or followed within 60 minutes, by headache
D. During headache at least one of the following: 1. nausea or vomiting, or both 2. photophobia and phonophobia	D. Not better accounted for by another ICHD-3 diagnosis
E. Not better accounted for by another ICHD-3 diagnosis.	

Abbreviation: ICHD-3, *International Classification of Headache Disorders*, 3rd edition.

Data from *The International Classification of Headache Disorders*, 3rd edition. Headache Classification Committee of the International Headache Society (IHS) Cephalalgia 2018;38:1–211.

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Contraindications: Use the CDC MEC app

Condition	Sub-Condition	CHC I	CHC C	POP I	POP C	Injection I	Injection C	Implant I	Implant C	LNG-IUD I	LNG-IUD C	Cu-IUD I	Cu-IUD C
Age		Menarche to <40=1 ≥40=2		Menarche to <18=1 18-45=1 >45=1		Menarche to <18=2 18-45=1 >45=1		Menarche to <18=1 18-45=1 >45=1		Menarche to <20=2 ≥20=1		Menarche to <20=2 ≥20=1	
Anatomic abnormalities	a) Distorted uterine cavity									4		4	
	b) Other abnormalities									2		2	
Anemias	a) Thalassemia	1		1		1		1		1		2	
	b) Sickle cell disease[a]	2		1		1		1		1		2	
	c) Iron-deficiency anemia	1		1		1		1		1		2	
Benign ovarian tumors	(including cysts)	1		1		1		1		1		1	
Breast disease	a) Undiagnosed mass	2*		2*		2*		2*		2		1	
	b) Benign breast disease	1		1		1		1		1		1	
	c) Family history of cancer	1		1		1		1		1		1	
	d) Breast cancer[f]												
	i) current	4		4		4		4		4		1	
	ii) past and no evidence of current disease for 5 years	3		3		3		3		3		1	
Breastfeeding (*see also Postpartum*)	a) <1 month postpartum	3*		2*		2*		2*					
	b) 1 month or more postpartum	2*		1*		1*		1*					
Cervical cancer	Awaiting treatment	2		1		2		2		4	2	4	2
Cervical ectropion		1		1		1		1		1		1	
Cervical intraepithelial neoplasia		2		1		2		2		2		1	
Cirrhosis	a) Mild (*compensated*)	1		1		1		1		1		1	
	b) Severe[i] (*decompensated*)	4		3		3		3		3		1	
Deep venous thrombosis (DVT)/Pulmonary embolism (PE)	a) History of DVT/PE, not on anticoagulant therapy												
	i) higher risk for recurrent DVT/PE	4		2		2		2		2		1	
	ii) lower risk for recurrent DVT/PE	3		2		2		2		2		1	
	b) Acute DVT/PE	4		2		2		2		2		2	

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Categories of Oral Contraceptives

- Monophasic vs Multiphasic
- Cyclic vs Extended cycle vs Continuous
- Estrogen type and dose
- Progestin type : 4 categories
- 24/4 vs 21/7

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Monophasic vs Multiphasic

- Monophasic (same dose of both components in the active pills)
- Multiphasic (varying doses weekly of both or either component in the active pills).
- Preferred - monophasic COCs as the initial prescription due to **ease of use and consistent hormone dose,** which improves adherence, a key component in COC effectiveness.
- Multiphasic COCs require more careful adherence to a specific sequential order in which to take the pills each cycle and **cannot be transitioned to continuous or extended-cycle use** the way that monophasic pills can if the patient desires, although supporting data are limited.
- There are also concerns that the changing hormone levels in multiphasic COCs could exacerbate mood symptoms in susceptible women (eg, those with premenstrual syndrome or premenstrual dysphoric disorder).

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Cyclic vs Extended cycle vs Continuous

Patients should be queried regarding achieving the frequency of withdrawal bleeding they desire.

-Monthly withdrawal bleeding
-Every three months (84/7 formulations)
-No withdrawal bleeds (365 day formulations).

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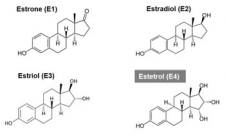
Estrogen type and dose



- Estradiol, Ethinylestradiol, or Estetrol (E4)
- EE : 10 mcg, 20 mcg, 30-35 mcg
- Start with a 20 mcg dose, and that can then be increased if unscheduled bleeding is a problem.
- 10 mcg when light to normal menses or perimenopausal
- Atleast 20 mcg containing OCP for adolescents (BMD)

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Generations of Progestin

	Progestogens
First generation	Norethindrone Norethynodrel Ethynodiol diacetate
Second generation	Levonorgestrel Norgestrel Norethisterone
Third generation	Gestodene Desogestrel Norgestimate
Fourth generation	Dienogest Drospirenone Nesterone Nomegestrol Trimegestone

Progestin	Androgenic effect
Levonorgestrel	High
Norgestrel	High
Norethindrone	Medium
Norethindrone acetate	Medium
Ethynodiol diacetate	Low
Norgestimate	None
Desogestrel	None
Drosperinone	Antiandrogenic

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24/4 vs 21/7

- 24/4 helps lower the estrogen content (especially for patients with obesity) and decreased hormone withdrawal side effects during the hormone-free interval

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OCP – How to pick a pill

- Estrogen - low, moderate, high dose – all estradiol
  - 10mcg – Lo Losestrin
  - 20mcg – Alesse, Junel, Microgestin
  - 30-35mcg - Sprintec, Ortho-cyclin, Junel 1.5, Seasonale
- Progesterone
  - Type – levonorgestrel, norethindrone, norgestrimate, drospirenone
  - Monophasic
  - Androgen
    - Low – Norgestimate – Sprintec
    - High – levonorgestrol – Alesse
- Extended cycle pills

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Initiation of COC

Combined oral contraceptive pills are to be taken daily at approximately the same time each day. Avoid taking them greater than 24 hours apart as this could affect efficacy. There are two methods of initiating COC for women per their priority as follow:

- **First-day start**: First day of menses - best strategy as it attains contraceptive efficacy faster than other methods and better bleeding profile.
- **Quick start:** Not protected from pregnancy in the first seven days, and an additional form of birth control is recommended.
- **Sunday start:** Pills are started on the first sunday after the period begins - not protected from pregnancy in the first seven days. An additional way of birth control is recommended during this period.
- **Miscarriage:** After miscarriage in the first two trimesters, start pills within the first seven days if contraception is desired.

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Postpartum Initiation of CHCs

Table 1. U.S. Medical Eligibility Criteria for Postpartum Initiation of Hormonal Contraception*

Contraceptive Type	Timing of Initiation	
	Breastfeeding	Not Breastfeeding
Combined hormonal contraceptives	During the first 21 days after giving birth (USMEC 4) 21–29 days after giving birth, regardless of VTE risk (USMEC 3) 30–42 days after giving birth: • With other risk factors for VTE (USMEC 3) • Without other risk factors for VTE (USMEC 2) More than 42 days after giving birth (USMEC 2)	During the first 21 days after giving birth (USMEC 4) 21–42 days after giving birth: • With other risk factors for VTE (USMEC 3) • Without other risk factors for VTE (USMEC 2) More than 42 days after giving birth (USMEC 1)

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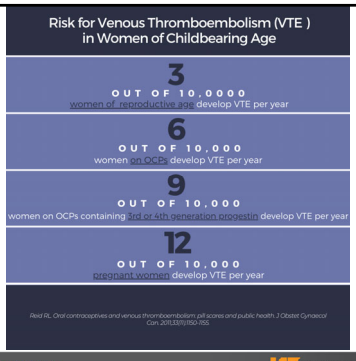

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Non-Contraceptive Uses of Oral Contraceptive

Clinical presentation	OCP Characteristics	Examples	Notes
Heavy menstrual bleeding	Balanced E+P; high endometrial activity	Loestrin 1.5/30	1st/2nd gen P with regular dose E
Dysmenorrhea	High progestational activity	Loestrin 1.5/30 , Desogest	1st/2nd gen P
Polycystic ovarian syndrome	Ovarian suppression (high E+ low androgenic P)	Yaz, Ovcon	3rd/4th gen P
Acne	Low Androgenic activity	Yaz, Demulen	3rd/4th gen P
Menstrual migraine/heavy menstrual bleeding/Endometriosis	Seasonal 84 day regimen/ continuous active pills in monthly packs	Seasonique	Androgenic P in this

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OCP related AUB

- Evaluate for pregnancy, compliance
- Adjuncts- Ibuprofen 800 mg PO TID 1-3 weeks, supplemental estrogen – Premarin or Ethinyl estradiol
- Change P from 2 nd gen to 1st gen – LNG to Norethindrone
- Early cycle breakthrough bleeding (BTB) - higher E (50 mcg pills, Ortho-Novum 1/50) or add ethinyl estradiol 0.02 mg PO for first 7 days
- Late cycle BTB – P with high Progestational and endometrial characteristics – Demulen , Lo Estrin

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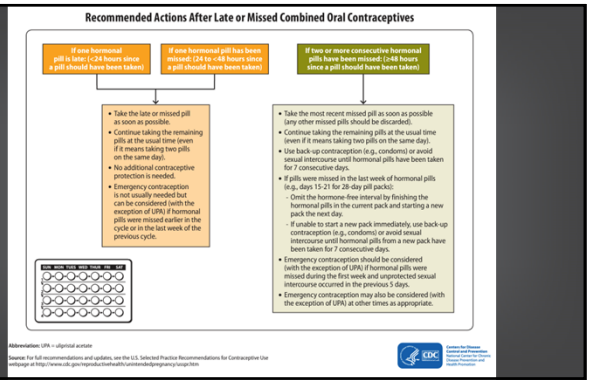

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Progestin Only Pills

- Norethindrone containing "Mini pill"
- Drospirenone only pills

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Over the Counter Progestin only Pill

- Norgestrel only O-Pill ™

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Wrap up with EC

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