ASK THE PHARMACIST: COUNSELING YOUR PATIENTS ON CONTRACEPTIVES
JULY 14, 2017
7:45 – 8:45 AM

ACPE UAN: 0107-9999-17-082-L01-P 0.1 CEU/1.0 hr
Activity Type: Application-Based

Learning Objectives for Pharmacists: Upon completion of this CPE activity participants should be able to:
1. Review various forms of currently available contraceptives and their effectiveness.
2. Compare and contrast various contraceptives to determine the most appropriate contraceptive for a specific patient based on her medical history.
3. Discuss appropriate screening, initiation and continuation of various combined hormonal contraceptives (pills, ring, patch).
4. Design a therapeutic plan to manage the most common side effects associated with combined hormonal contraceptives.
5. Explain protocols that could be implemented to authorize qualified pharmacists to perform appropriate screening and prescribe combined hormonal contraceptives.

Speaker: Laura Borgelt, PharmD, FCCP, BCPS
Laura M. Borgelt is an Associate Dean of Administration and Operations at the University of Colorado Skaggs School of Pharmacy and Pharmaceutical Sciences and Professor in the Departments of Clinical Pharmacy and Family Medicine. She received her Bachelor of Science degree from the University of Iowa and her Doctor of Pharmacy degree from the University of Colorado. She completed a Primary Care Residency with the University of Colorado and Kaiser Permanente. Dr. Borgelt’s teaching, practice, and research focus on women’s health pharmacotherapy with an emphasis on reproductive health. She has published numerous peer-reviewed women’s health articles, several book chapters, and was an editor of the textbook entitled “Women’s Health Across the Lifespan: A Pharmacotherapeutic Approach.” She has been the recipient of several teaching and clinical awards and is an active member of and leader in multiple professional organizations.

Speaker Disclosure: Laura Borgelt reports that she is a consultant for PharmCon, Inc. Off-label use of medications will be discussed during this presentation.
Ask the Pharmacist: Counseling your Patients on Contraceptives

Laura Borgelt, PharmD, FCCP, BCPS
Associate Dean and Professor
University of Colorado Skaggs School of Pharmacy and Pharmaceutical Sciences

Disclosure

• Dr. Laura Borgelt reports no actual or potential conflicts of interest associated with this presentation.
• Dr. Laura Borgelt will be discussing off-label use of medications in this presentation.
Learning Objectives

Upon successful completion of this activity, pharmacists should be able to:

• Review various forms of currently available contraceptives and their effectiveness.
• Compare and contrast various contraceptives to determine the most appropriate contraceptive for a specific patient based on her medical history.
• Discuss appropriate screening, initiation and continuation of various combined hormonal contraceptives (pills, ring, patch).
• Design a therapeutic plan to manage the most common side effects associated with combined hormonal contraceptives.
• Explain protocols that could be implemented to authorize qualified pharmacists to perform appropriate screening and prescribe combined hormonal contraceptives.
Let’s Establish a Baseline…

• T/F: I can readily discuss the effectiveness of all available contraceptives.

• T/F: I am able to appropriately screen for and discuss the use of various contraceptives with patients.

• The contraceptive method I am most interested in learning about is: oral contraceptive pill, vaginal ring, IUDs, or other.

Contraception: Forms and Effectiveness
Hormonal Contraception

Combined Hormonal Contraception

- Pills
- Vaginal Ring
- Patch

Progestin-Only Contraception

- Intrauterine Devices (IUDs)
- Injection
- Implant
- Pills

https://www.girlshealth.gov/body/sexuality/bc_types.html

Combined Hormonal Contraception

**Estrogen**
- Ethinyl estradiol
- Estradiol valerate
- Mestranol

**Progestin**
- Norethindrone
- Norethindrone acetate
- Ethynodiol diacetate
- Norgestrel
- Levonorgestrel
- Desogestrel, etonogestrel
- Norgestimate, norelgestromin
- Drospirenone
- Dienogest
Uses: Combined Hormonal Contraceptives

- Prevention of pregnancy
- Menstrual cycle improvement
- Menstrual pain
- Improvement of acne and hirsutism
- Reduction of ovarian and endometrial cancers
- Decreased risk of iron deficiency anemia
- Suppression of endometriosis
- Transition therapy for perimenopause

Non-hormonal Contraception

- Copper IUD
- Sponge
- Male condom
- Female condom
- Spermicide
- Abstinence
- Fertility awareness
- Withdrawal
- Vasectomy
- Tubal ligation
- Essure
- Lactational Amenorrhea
- Diaphragm
- Cervical Cap
Practically speaking…

In one year...

No method

Knowing this information about contraceptive effectiveness, how should we communicate contraceptive options to patients?

Discuss 1-3 effective contraceptive options that could be considered, including long-acting reversible contraceptive (LARC) methods when possible.
Appropriate Use of Contraception

After evaluating efficacy....

SAFETY

U.S. Medical Eligibility Criteria (US MEC) for Contraceptive Use, 2016
MMWR Recomm Reports 2016;65(No. RR-3);1-104

Available at:
https://www.cdc.gov/reproductivehealth/contraception/mmwr/mec/summary.html

DOI: http://dx.doi.org/10.15585/mmwr.rr6503a1
U.S. Medical Eligibility Criteria

Recommendations for using specific contraceptive methods by women and men who have certain characteristics or medical conditions.

1. No restriction (method can be used)
2. Advantages generally outweigh theoretical or proven risks
3. Theoretical or proven risks usually outweigh advantages
4. Unacceptable health risk (method not to be used)

https://www.cdc.gov/reproductivehealth/contraception/mmwr/mec/summary.html
Summary Chart of U.S. Medical Eligibility Criteria for Contraceptive Use

https://www.cdc.gov/reproductivehealth/contraception/mmwr/mec/summary.html

<table>
<thead>
<tr>
<th>Condition</th>
<th>Sub-Condition</th>
<th>Cu-IUD</th>
<th>LNG-IUD</th>
<th>Implant</th>
<th>DMPA</th>
<th>POP</th>
<th>CHC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headaches</td>
<td>a) Nonmigraine (mild or severe)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1*</td>
</tr>
<tr>
<td></td>
<td>b) Migraine</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2*</td>
</tr>
<tr>
<td></td>
<td>i) Without aura (includes menstrual migraine)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2*</td>
</tr>
<tr>
<td></td>
<td>ii) With aura</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4*</td>
</tr>
</tbody>
</table>

https://www.cdc.gov/reproductivehealth/contraception/mmwr/mec/summary.html
### Summary Chart of U.S. Medical Eligibility Criteria for Contraceptive Use

**Condition**

<table>
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<tr>
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<th>POP</th>
<th>CHC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>a) Age &lt;35</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Age ≥35, &lt; 15 cigarettes/day</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>c) Age ≥35, ≥ 15 cigarettes/day</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

https://www.cdc.gov/reproductivehealth/contraception/mmwr/mec/summary.html

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### Summary Chart of U.S. Medical Eligibility Criteria for Contraceptive Use

**Condition**

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<tr>
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<th>Cu-UUD</th>
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<th>Implant</th>
<th>DMPA</th>
<th>POP</th>
<th>CHC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimicrobial therapy</td>
<td>1</td>
<td>1</td>
<td>2*</td>
<td>3*</td>
<td>3*</td>
<td>3*</td>
</tr>
<tr>
<td>a) Broad-spectrum antibiotics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Antifungals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Antiparasitics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) Rifampin or rifabutin therapy</td>
<td>1</td>
<td>1</td>
<td>2*</td>
<td>3*</td>
<td>3*</td>
<td>3*</td>
</tr>
</tbody>
</table>

https://www.cdc.gov/reproductivehealth/contraception/mmwr/mec/summary.html
Brief Vignette

A 30-year old woman has just delivered her second child. She is ready to be discharged from the hospital and wants contraception. She plans to breastfeed.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Sub-Condition</th>
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<th>Implant</th>
<th>DMPA</th>
<th>POP</th>
<th>CHC</th>
</tr>
</thead>
<tbody>
<tr>
<td>breastfeeding</td>
<td>a) &lt;21 days postpartum</td>
<td>2°</td>
<td>2°</td>
<td>2°</td>
<td>2°</td>
<td>4°</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) 21 to &lt;30 days postpartum</td>
<td>2°</td>
<td>2°</td>
<td>2°</td>
<td>2°</td>
<td>3°</td>
<td></td>
</tr>
<tr>
<td></td>
<td>i) With other risk factors for VTE</td>
<td>2°</td>
<td>2°</td>
<td>2°</td>
<td>2°</td>
<td>3°</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii) Without other risk factors for VTE</td>
<td>2°</td>
<td>2°</td>
<td>2°</td>
<td>2°</td>
<td>3°</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c) 30-42 days postpartum</td>
<td>1°</td>
<td>1°</td>
<td>1°</td>
<td>1°</td>
<td>2°</td>
<td></td>
</tr>
<tr>
<td></td>
<td>i) With other risk factors for VTE</td>
<td>1°</td>
<td>1°</td>
<td>1°</td>
<td>1°</td>
<td>2°</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii) Without other risk factors for VTE</td>
<td>1°</td>
<td>1°</td>
<td>1°</td>
<td>1°</td>
<td>2°</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d) &gt;42 days postpartum</td>
<td>1°</td>
<td>1°</td>
<td>1°</td>
<td>1°</td>
<td>2°</td>
<td></td>
</tr>
</tbody>
</table>

Your contraceptive recommendation(s):

Brief Vignette

A 38 year-old woman has a history of hypertension and takes lisinopril. Her blood pressure has been well-controlled for the last 6 months.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Sub-Condition</th>
<th>Cu-IUD</th>
<th>LNG-IUD</th>
<th>Implant</th>
<th>DMPA</th>
<th>POP</th>
<th>CHC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension</td>
<td>a) Adequately controlled hypertension</td>
<td>1°</td>
<td>1°</td>
<td>1°</td>
<td>1°</td>
<td>3°</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) Elevated blood pressure levels (properly taken measurements)</td>
<td>1°</td>
<td>2°</td>
<td>2°</td>
<td>2°</td>
<td>3°</td>
<td></td>
</tr>
<tr>
<td></td>
<td>i) Systolic 140-159 or diastolic 90-99</td>
<td>1°</td>
<td>2°</td>
<td>2°</td>
<td>2°</td>
<td>3°</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii) Systolic ≥160 or diastolic ≥100</td>
<td>1°</td>
<td>2°</td>
<td>2°</td>
<td>2°</td>
<td>3°</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C) Vascular disease</td>
<td>1°</td>
<td>2°</td>
<td>2°</td>
<td>2°</td>
<td>3°</td>
<td></td>
</tr>
</tbody>
</table>

*Note in MEC clarification/comment/evidence: For all categories of hypertension, classifications are based on the assumption that no other risk factors for cardiovascular disease exist. When multiple risk factors do exist, risk for cardiovascular disease might increase substantially. A single reading of blood pressure level is not sufficient to classify a woman as hypertensive. Theoretical concern exists about the effect of LNG on lipids. Use of Cu-IUDs has no restrictions. Women adequately treated for hypertension are at lower risk for acute myocardial infarction and stroke than are untreated women. Although no data exist, POP users with adequately controlled and monitored hypertension should be at lower risk for acute myocardial infarction and stroke than are untreated hypertensive POP users. Evidence: Limited evidence suggests that among women with hypertension, those who used POPs or progestin-only injectables had a small increased risk for cardiovascular events compared with women who did not use these methods (75). Comment: Concern exists about hypoestrogenic effects and reduced HDL levels, particularly among users of DMPA. However, little concern exists about these effects with regard to POPs. The effects of DMPA might persist for sometime after discontinuation. Although no data exist, CHC users with adequately controlled and monitored hypertension should be at reduced risk for acute myocardial infarction and stroke compared with untreated hypertensive CHC users. Among women with hypertension, CDC users were at higher risk than nonusers for stroke, acute myocardial infarction, and peripheral arterial disease (204,108,113–120,129–143). Discontinuation of COCs in women with hypertension might improve blood pressure control (144).

Your contraceptive recommendation(s):
Patient Case

A 28 year-old female presents in the pharmacy with unpredictable bleeding in between regular periods. She started Loestrin FE 1/20 (20 mcg EE, 1.0 mg norethindrone acetate) 2 months ago for pregnancy prevention. She states that the bleeding has occurred during the first week of her active pills during both months.

PMH: migraine without aura or focal neurologic symptoms which have been well-controlled for the past 12 months.

SH: drinks socially on weekends and does not smoke.

Medications: propranolol LA 160 mg po once daily for migraine prophylaxis and naproxen 220 mg 1-2 tablets po very 6-8 hours prn menstrual cramps.

PE: BP 124/72 mmHg, Ht: 5’10”, Wt: 190 lbs.

Which of the following would you recommend for this patient?

1. Increase the estrogen dose in her contraceptive pill
2. Increase the progestin dose in her contraceptive pill
3. Discontinue this contraceptive pill and insert the levonorgestrel IUD
4. Continue the current regimen for 1-2 more months
5. I have no idea
Content of Oral Contraceptives

To Continue or Discontinue?

- Discontinue?
  - Contraindications - none
  - Serious adverse effects - none
  - Drug interactions - none
  - Adherence (repeated missed pills) – none

- Adequate trial?
  - Patient has not yet had adequate trial of 3 months

http://www.empr.com/clinical-charts/oral-contraceptives/article/123837/
Accessed April 24, 2017
Which of the following would you recommend for this patient?

1. Increase the estrogen dose in her contraceptive pill
2. Increase the progestin dose in her contraceptive pill
3. Discontinue this contraceptive pill and insert the levonorgestrel IUD
4. **Continue the current regimen for 1-2 more months**
5. I have no idea
After evaluating efficacy and safety….

**SELECTION, INITIATION AND CONTINUATION**

**U.S. Selected Practice Recommendations (US SPR)**
for Contraceptive Use, 2016
*MWRR Recomm Reports* 2016; 65(No. RR-4);1–66

Available at:
https://www.cdc.gov/reproductivehealth/contraception/mmwr/spr/summary.html


**U.S. Selected Practice Recommendations for Contraceptive Use, 2016**

Addresses a select group of common, yet sometimes controversial or complex, issues regarding initiation and use of specific contraceptive methods.

- Timing (initiation)
- Need for back-up
- Special considerations
- Examinations and tests needed prior to use
- Follow-up
Other Patient Factors for Choosing Appropriate Contraception

- Past medical history
- Current medications
- Patient preference
- Ability to adhere

Patient Case

A 20 yr old female is in clinic today because she does not have normal periods. She has not had a normal period since she was 13 years old.

PMH: Moderate acne - covers with make up. Hirsutism with hair on her upper lip - growing thicker the past few years - waxed routinely. Overweight – struggles emotionally - hard to lose weight.

SH: Walked 5 days/week for 20 minutes x past 6 months and lost 2 pounds. Smokes when she drinks - almost every weekend. New boyfriend - using condoms for STI and pregnancy prevention.

Meds: none

PE: BP 126/76 mmHg, Ht: 5’8”, Wt: 175 lbs.

Medical resident is asking you for a recommendation for a birth control pill to help her symptoms and provide more effective contraception.
Which of the following contraceptive methods would you recommend for this patient?

1. COC: Ethinyl estradiol + norethindrone acetate
2. COC: Ethinyl estradiol + desogestrel
3. Contraceptive vaginal ring
4. Contraceptive patch
5. I have no idea

Choosing an Appropriate CHC

- Consider efficacy and safety of various options in light of patient specific factors
- Determine patient factors
  - Past medical history
  - Medications
  - Patient preference
  - Ability to adhere
- Provide 1-3 contraceptive options that could be considered, including long-acting reversible contraceptive (LARC) methods when possible
  - If combined oral contraceptive, monophasic pill is usually preferred
Choosing an Appropriate CHC

IN THIS PATIENT

- Determine patient factors
  - Past medical history: no contraindications; symptoms suggest PCOS
  - Medications: none
  - Ability to adhere: unknown
  - Patient preference: pill request (from medical resident)
  - Adverse side effects: unknown
- Provide 1-3 contraceptive options that could be considered, including long-acting reversible contraceptive (LARC) methods when possible
  - For combined oral contraceptive, monophasic pill preferred

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Adherence: Administration Frequency

<table>
<thead>
<tr>
<th>METHOD</th>
<th>FDA-APPROVED ADMINISTRATION FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vasectomy, tubal ligation</td>
<td>Once for permanent contraception</td>
</tr>
<tr>
<td>Copper IUD (ParaGard)</td>
<td>Once every 10 years*</td>
</tr>
<tr>
<td>Levonorgestrel IUD (Mirena, Kyleena)</td>
<td>Once every 5 years*</td>
</tr>
<tr>
<td>Levonorgestrel IUD (Skyla, Liletta)</td>
<td>Once every 3 years</td>
</tr>
<tr>
<td>Implant</td>
<td>Once every 3 years</td>
</tr>
<tr>
<td>Injection</td>
<td>Once every 3 months</td>
</tr>
<tr>
<td>Vaginal ring</td>
<td>Once every month</td>
</tr>
<tr>
<td>Patch</td>
<td>Once every week</td>
</tr>
<tr>
<td>Pill</td>
<td>Once every day</td>
</tr>
<tr>
<td>Condoms, sponge, spermicide, diaphragm, cervical cap, withdrawal</td>
<td>Once every act of sexual intercourse</td>
</tr>
</tbody>
</table>

Management of Acne

- Non-pharmacologic measures
- Choose contraceptive with low or no androgenic activity
  - Desogestrel (3rd generation)
  - Norgestimate (3rd generation)
  - Drosperinone (4th generation)
- Choose contraceptive with higher estrogen doses (30-35 mcg)
- FDA indications for acne (e.g., Ortho Tri-Cyclen, Estrostep)

Types of Progestins in CHCs

<table>
<thead>
<tr>
<th>1st Generation</th>
<th>2nd Generation</th>
<th>3rd Generation</th>
<th>4th Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norethindrone</td>
<td>Levonorgestrel</td>
<td>Desogestrel (Etonogestrel)</td>
<td>Drospirenone</td>
</tr>
<tr>
<td>Norethindrone acetate</td>
<td>Norgestrel</td>
<td>Norgestimate (Norelgestromin)</td>
<td>Dienogest (possible 5th gen)</td>
</tr>
<tr>
<td>Ethynodiol diacetate</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Androgenic activity

3rd/4th Generation: Low or no androgen
Which of the following contraceptive methods would you recommend for this patient?

1. COC: Ethinyl estradiol + norethindrone acetate
2. COC: Ethinyl estradiol + desogestrel
3. Contraceptive vaginal ring
4. Contraceptive patch
5. I have no idea
## Use of CHCs

- **Cyclic use (examples)**
  - 21 active days – 7 inactive days
  - 24 active days – 4 inactive days

- **Extended or continuous use**
  - Active pills continuously (daily)
    - Take 21 days, begin new pack immediately (discard last 7 inactive)
    - Some pill packs designed for extended use and will not contain placebo/inactive pill
  - Transdermal patch continuously (weekly)
  - Vaginal ring continuously (monthly)
  - Use monophasic CHC

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### When to Start Using Specific Contraceptive Methods

<table>
<thead>
<tr>
<th>Contraceptive method</th>
<th>When to start (if the provider is reasonably certain that the woman is not pregnant)</th>
<th>Additional contraception (i.e., back-up) needed</th>
<th>Examinations or tests needed before initiation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper-containing IUD</td>
<td>Anytime</td>
<td>Not needed</td>
<td>Bilateral examination and cervical inspection1</td>
</tr>
<tr>
<td>Levonorgestrel-releasing IUD</td>
<td>Anytime</td>
<td>If &gt;7 days after menses started, use back-up method or abstain for 7 days</td>
<td>Bilateral examination and cervical inspection1</td>
</tr>
<tr>
<td>Implant</td>
<td>Anytime</td>
<td>If &gt;5 days after menses started, use back-up method or abstain for 7 days</td>
<td>None</td>
</tr>
<tr>
<td>Injectable</td>
<td>Anytime</td>
<td>If &gt;7 days after menses started, use back-up method or abstain for 7 days</td>
<td>None</td>
</tr>
<tr>
<td>Combined hormonal contraceptive</td>
<td>Anytime</td>
<td>If &gt;5 days after menses started, use back-up method or abstain for 7 days</td>
<td>Blood pressure measurement</td>
</tr>
<tr>
<td>Progestin-only pill</td>
<td>Anytime</td>
<td>If &gt;5 days after menses started, use back-up method or abstain for 2 days</td>
<td>None</td>
</tr>
</tbody>
</table>

Recommended Actions After Late or Missed Combined Oral Contraceptives

If one hormonal pill is taken (<24 hours since a pill should have been taken):
- Take the late or missed pill as soon as possible.
- Continue taking the remaining pill at the usual time (even if it means taking two pills on the same day).
- No additional contraceptive protection is needed.
- Emergency contraception is not usually needed but can be considered (with the exception of IUD). If hormonal pills were missed earlier in the cycle or in the last week of the previous cycle.

If one hormonal pill has been missed (48 to <96 hours since a pill should have been taken):
- Take the most recent missed pill as soon as possible (any other missed pills should be discarded).
- Continue taking the remaining pills at the usual time (even if it means taking two pills on the same day).
- Use back-up contraception (e.g., condoms) or avoid sexual intercourse until hormonal pills have been taken for 7 consecutive days.
- If pills were missed in the last week of hormonal pills (e.g., days 15–21 for 28-day pill pack):
  - Use back-up contraception (e.g., condoms) or avoid sexual intercourse until hormonal pills from a new pack have been taken for 7 consecutive days.
- Emergency contraception should be considered (with the exception of IUD) if hormonal pills were missed during the first week and unprotected sexual intercourse occurred in the previous 5 days.
- Emergency contraception may also be considered with the exception of IUD at other times as appropriate.

If two or more consecutive hormonal pills have been missed (<96 hours since a pill should have been taken):
- Follow the steps above for a single missed pill and continue taking the remaining pills at the usual time.

Recommended Actions After Delayed Application or Detachment With Combined Hormonal Patch

Delayed application or detachment for <48 hours since a patch should have been applied or detached:
- Apply a new patch as soon as possible.
- Keep the same patch change day.
- No additional contraceptive protection is needed. If delayed application or detachment occurred earlier in the cycle or in the last week of the previous cycle.
- Emergency contraception is not usually needed but can be considered (with the exception of IUD).
- If delayed application or detachment occurred in the third patch week:
  - Start the hormone-free week by finishing the third week of patch use (keeping the same patch change day) and starting a new patch immediately.
  - If unable to start a new patch immediately, use back-up contraception (e.g., condoms) or avoid sexual intercourse until a new patch has been worn for 7 consecutive days.
- Emergency contraception should be considered (with the exception of IUD) if delayed insertion or reinsertion occurred earlier in the cycle or in the last week of the previous cycle.

Recommended Actions After Delayed Insertion or Reinsertion With Combined Vaginal Ring

Delayed insertion of a new or delayed reinsertion of a current ring for <48 hours since a ring should have been applied or inserted:
- Insert ring as soon as possible.
- Keep the ring in until the scheduled ring removal day.
- No additional contraceptive protection is needed. If delayed insertion or reinsertion occurred earlier in the cycle or in the last week of the previous cycle.
- Emergency contraception should be considered (with the exception of IUD) if delayed insertion or reinsertion occurred within the first week of ring use and unprotected sexual intercourse occurred in the previous 5 days.
- Emergency contraception may also be considered with the exception of IUD at other times as appropriate.
Managing Adverse Effects of Contraceptive Methods

CHC Serious Side Effects: ACHES

- A - Abdominal pain
- C - Chest pain, shortness of breath, coughing up blood
- H - Headaches (severe)
- E - Eye problems (blurred vision, flashing lights, blindness)
- S - Severe leg pain with or without swelling
# CHCs: Management of Side Effects

<table>
<thead>
<tr>
<th>ADVERSE EFFECT</th>
<th>MANAGEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ESTROGEN EXCESS</strong></td>
<td>Typically improves after 2-3 cycles</td>
</tr>
<tr>
<td>Nausea/vomiting</td>
<td>For nausea, take with food or HS; lower estrogen</td>
</tr>
<tr>
<td>Breast tenderness</td>
<td>Decrease estrogen content in CHC</td>
</tr>
<tr>
<td>Weight gain</td>
<td>Consider progestin-only or IUD</td>
</tr>
<tr>
<td><strong>ESTROGEN DEFICIENCY</strong></td>
<td>Increase estrogen content in CHC (especially if first week of cycle)</td>
</tr>
<tr>
<td>Breakthrough bleeding/spotting</td>
<td></td>
</tr>
<tr>
<td><strong>PROGESTIN EXCESS</strong></td>
<td>Consider lower androgenic or higher estrogenic</td>
</tr>
<tr>
<td>Acne, oily skin, hirsutism</td>
<td></td>
</tr>
<tr>
<td>Depression, fatigue, irritability</td>
<td>Depression screening; may modify progestin</td>
</tr>
</tbody>
</table>

## Mini Patient Case

A 25 year-old female calls your pharmacy complaining of nausea. Upon review of her patient profile, you find that she started Demulen 1/35 (35 mcg EE, 1.0 mg ethynodiol diacetate) taking two weeks ago.

**How would you respond to her concern about nausea?**
Which of the following contraceptive methods would you recommend for this patient?

Patient Preference (administration)

1. COC: Ethinyl estradiol + norethindrone acetate
2. COC: Ethinyl estradiol + desogestrel
3. Contraceptive vaginal ring: Ethinyl estradiol + etonogestrel
4. Contraceptive patch: Ethinyl estradiol + norgestimate
5. I have no idea

The patient decided to try the combined oral contraceptive. After six months of use, she realizes it is difficult to adhere to her daily regimen. She has not had adverse effects. She is interested in trying the vaginal ring to improve her adherence.

What would you recommend to ensure an appropriate switch from an oral formulation to the vaginal ring?
Switch from COC to Vaginal Ring

• Immediately if reasonably certain not pregnant
  • Waiting for next menstrual cycle is unnecessary
• Do not start any day later than oral contraceptive would have been started
• If it has been >5 days since menstrual bleeding started, to abstain from sexual intercourse or use additional contraceptive protection for the next 7 days.

Communication Strategies
Communication Strategies

• **What did your prescriber tell you the medication is for?**
  • “Some women take birth control pills to improve their menstrual cycle control, while others take them to prevent pregnancy. So that I can better inform you about the issues involving COCs, what is your primary goal for taking these pills?”
  • Verify understanding or appropriately describe indication(s)

• **How did your prescriber tell you to take the medication?**
  • “When did the doctor tell you to start taking the pill and what did he/she tell you about how to take it?”
  • Assess patient knowledge and verify understanding of instructions
  • Explain the quantity dispensed and number of refills
  • Describe and demonstrate administration and instructions for use
  • Describe storage and expiration of the product
Communication Strategies, con’t

• **What did your prescriber tell you to expect?**
  - Verify understanding of or described goals or benefits of therapy
  - Describe relevant adverse effects and/or precautions associated with the medication and non-pharmacologic management if applicable
  - Advise patient of signs and symptoms that indicate the need for further medical attention

• Use open-ended questions
• Verify patient understanding
• Conclude with invitation for patient to call if questions or concerns arise

Patient Case

A 23 year-old woman with a history of seizures and depression is seeking your advice regarding a contraceptive method. Upon review of her medication profile, you see her medications include topiramate and fluoxetine.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Sub-Condition</th>
<th>Cu-IUD</th>
<th>LNG-IUD</th>
<th>Implant</th>
<th>DMPA</th>
<th>POP</th>
<th>CHC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticonvulsant therapy</td>
<td>a) Certain anticonvulsants (phenytoin, carbamazepine, barbiturates, primidone, topiramate, oxcarbazepine)</td>
<td>1</td>
<td>1</td>
<td>2*</td>
<td>1*</td>
<td>3*</td>
<td>3*</td>
</tr>
<tr>
<td></td>
<td>b) Lamotrigine</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>SSRIs</td>
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<td></td>
</tr>
</tbody>
</table>

Your contraceptive recommendation(s):
Depot Medroxyprogesterone (DMPA)

• 3-month injectable
  • 104 mg (subcutaneous)
  • 150 mg (intramuscular)
  • Can be given between 10-14 weeks

• Counseling points
  • Weight gain
  • Menstrual cycle changes
    • Improves menorrhagia, dysmenorrhea
  • Bone loss (conflicting evidence)


Intrauterine Devices (IUDs)

• Copper
  • Non-hormonal
  • Menstrual bleeding up to 35% more
  • Effective 10-12 years

• Progestin-only
  • Hormonal (progestin-related effects)
  • Improves menorrhagia
  • Effective 3-7 years

Communication Strategies: IUDs

- Various methods and duration of effectiveness
- Insertion technique
- Serious complications
  - Expulsion
  - Perforated uterus
  - Pelvic inflammatory disease
- Adverse effects
  - Pain upon insertion
  - Changes in menstrual cycle

Protocol Driven, Pharmacist-Prescribed Hormonal Contraception
Pharmacist Prescribed Hormonal Contraception

**ANTICIPATED EFFECTS**
- ↑ access to contraception
- ↓ unintended pregnancy and abortion
- Safe for women without prescription
- ↓ MD visits and related medical costs without adverse effects on health
- Pharmacists and prescribers sharing responsibility of care while working within scope of practice
- Mitigate racial disparities

**POTENTIAL CONCERNS**
- May not go far enough for ↑ access
- Effectiveness and preferences must be considered
- May shift contraceptive use away from LARCs
- May ↓ attention for OTC hormonal contraception initiatives
- Age laws (where applicable) may discourage vulnerable women from seeking contraceptive care


Procedure: Pharmacist-Prescribed Hormonal Contraception (after completion of training)

1. Patient uses and completes the self-screening tool
3. Pharmacist measures and records patient’s seated blood pressure if combined hormonal contraceptives are requested or recommended.
4. Pharmacist ensures patient is appropriately trained in administration of the requested or recommended contraceptive medication.
5. Pharmacist notifies patient’s primary care provider of any drug(s) or device(s) furnished to the patient, or enters the appropriate information in a patient record system shared with the primary care provider, as permitted by that primary care provider.

Referral occurs for any identified contraindication(s)
Example: Self-Screening Tool (CO)

<table>
<thead>
<tr>
<th>Background information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical history</td>
</tr>
<tr>
<td>Patient preference</td>
</tr>
<tr>
<td>Documentation of prescription</td>
</tr>
</tbody>
</table>

Let’s Review…

- T/F: I can readily discuss the effectiveness of all available contraceptives.

- T/F: I am able to appropriately screen for and discuss the use of various contraceptives with patients.

- The contraceptive method I learned the most about is: oral contraceptive pill, vaginal ring, IUDs, or other.
Conclusions

• MANY contraceptives available and most effective reversible contraceptives are LARCs.
• Medical eligibility criteria helpful to identify safe options for women with various conditions.
• The most appropriate contraceptive for a patient should be individualized and consider efficacy, safety, preference, attitudes, cost, and non-contraceptive benefits.
• Most side effects managed with adequate trial of contraceptive, but can be easily managed with accurate patient history and various contraceptive options.
• Effective communication is key to provide most appropriate guidance for patients and providers.

Thank You! Questions?
Laura Borgelt, PharmD, FCCP, BCPS
Email: laura.borgelt@ucdenver.edu
### Summary Chart of U.S. Medical Eligibility Criteria for Contraceptive Use

<table>
<thead>
<tr>
<th>Condition</th>
<th>Sub-Condition</th>
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<th>LNG-IUD</th>
<th>Implant</th>
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<th>POP</th>
<th>CHC</th>
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<tbody>
<tr>
<td>Age</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Menarche &lt; 20 yrs</td>
<td>1</td>
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<td>1</td>
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<tr>
<td></td>
<td>Menarche ≥ 20 yrs</td>
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<td>Anatomical abnormalities</td>
<td>a) Distorted uterine cavity</td>
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<td></td>
<td>b) Other abnormalities</td>
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<td>Cervical ectropion</td>
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<td>Cervical intraepithelial neoplasia</td>
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<tr>
<td>Cystic fibrosis‡</td>
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<tr>
<td>Deep venous thrombosis (DVT)/Pulmonary embolism (PE)</td>
<td>a) History of DVT/PE, not receiving anticoagulant therapy</td>
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<td></td>
<td>b) Higher risk for recurrent DVT/PE</td>
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<tr>
<td></td>
<td>c) DVT/PE and established anticoagulant therapy for at least 3 months</td>
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<td></td>
<td>d) Family history (first-degree relatives)</td>
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<tr>
<td></td>
<td>e) Major surgery</td>
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<tr>
<td></td>
<td>f) Minor surgery without immobilization</td>
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<td>Depressive disorders</td>
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<td>Diabetes</td>
<td>a) History of gestational disease</td>
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<tr>
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<td>b) Nonvascular disease</td>
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<td>c) Insulin dependent</td>
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<td></td>
<td>d) Other vascular disease of diabetes &gt;20 years duration‡</td>
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<td>3/4*</td>
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<td>Dysmenorrhea</td>
<td>Severe</td>
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<td>Endometrial cancer‡</td>
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<td>Endometriosis</td>
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<tr>
<td>Epilepsy*</td>
<td>(see also Drug Interactions)</td>
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<td>Gallbladder disease</td>
<td>a) Symptomatic</td>
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<tr>
<td></td>
<td>b) Benign breast disease</td>
<td>1</td>
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<td>2</td>
<td>2</td>
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<td>2</td>
</tr>
<tr>
<td></td>
<td>c) Breast cancer‡</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
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</tr>
<tr>
<td></td>
<td>d) Breast cancer‡</td>
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<td>2</td>
<td>2</td>
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<tr>
<td></td>
<td>e) Breastfeeding a) &lt;21 days postpartum</td>
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<tr>
<td></td>
<td>b) &lt;21 to &gt;30 days postpartum</td>
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<tr>
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<td>c) &gt;30 to 42 days postpartum</td>
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<td>d) &gt;42 days postpartum</td>
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<tr>
<td></td>
<td>e) Endometrial hyperplasia</td>
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<td>2</td>
<td>2</td>
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<td>2</td>
</tr>
<tr>
<td></td>
<td>f) Epilepsy*</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Gestational trophoblastic disease‡</td>
<td>a) Susppected GTD (immediate postevacuation)</td>
<td>1</td>
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<td>1</td>
<td>1</td>
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<td>1</td>
</tr>
<tr>
<td></td>
<td>b) Confirmed GTD</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
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</tr>
<tr>
<td></td>
<td>c) Persistently elevated h-HCG levels</td>
<td>1</td>
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<td>1</td>
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<td>d) Persistent elevation h-HCG levels</td>
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<td>e) Discontinuing treatment</td>
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<td>1</td>
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</tr>
<tr>
<td></td>
<td>f) Other contraindications</td>
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<td>1</td>
<td>1</td>
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<tr>
<td>Headaches</td>
<td>a) Migraine</td>
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<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>b) Severe headache</td>
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<tr>
<td>History of bariatric surgery*</td>
<td>a) Restrictive procedures</td>
<td>1</td>
<td>1</td>
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<td>1</td>
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<tr>
<td></td>
<td>b) Malabsorptive procedures</td>
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<td>History of cholestasis</td>
<td>a) Pregnancy related</td>
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<tr>
<td></td>
<td>b) Past COC related</td>
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<td>History of high blood pressure during pregnancy</td>
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<td>History of Pelvic surgery</td>
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<td>2</td>
<td>2</td>
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<tr>
<td>HIV</td>
<td>a) High risk for HIV</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>b) HIV infection</td>
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<td>1</td>
<td>1</td>
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<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

**Key:**
- 1: No restriction (method can be used)
- 2: Advantages generally outweigh theoretical or proven risks
- 3: Theoretical or proven risks usually outweigh the advantages
- 4: Unacceptable health risk (method not to be used)

**Abbreviations:**
- Cu-IUD = copper intrauterine device; LNG-IUD = levonorgestrel-releasing intrauterine device; Implant = implantable contraceptive; DMPA = depot medroxyprogesterone acetate; POP = combined oral contraceptive; CHC = combined hormonal contraception (pill, patch, and, ring).
- **NA:** Not applicable.
- **C:** Continuation of contraceptive method.
- **P/R:** Postpartum/return.

*See also Drug Interactions.*
### Summary Chart of U.S. Medical Eligibility Criteria for Contraceptive Use

<table>
<thead>
<tr>
<th>Condition</th>
<th>Sub-Condition</th>
<th>Cu-IUD</th>
<th>LNG-IUD</th>
<th>Implant</th>
<th>DMPA</th>
<th>POP</th>
<th>CHC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hypertension</strong></td>
<td>a) Adequately controlled hypertension</td>
<td>1*</td>
<td>1*</td>
<td>1*</td>
<td>2*</td>
<td>1*</td>
<td>3*</td>
</tr>
<tr>
<td></td>
<td>b) Elevated blood pressure level (properly taken measurements)</td>
<td>1*</td>
<td>1*</td>
<td>1*</td>
<td>2*</td>
<td>1*</td>
<td>3*</td>
</tr>
<tr>
<td></td>
<td>i) Systolic 140-159 or diastolic 90-99</td>
<td>1*</td>
<td>1*</td>
<td>1*</td>
<td>2*</td>
<td>1*</td>
<td>3*</td>
</tr>
<tr>
<td></td>
<td>ii) Systolic &gt;160 or diastolic &gt;100</td>
<td>1*</td>
<td>2*</td>
<td>3*</td>
<td>2*</td>
<td>4*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c) Vascular disease</td>
<td>1*</td>
<td>2*</td>
<td>3*</td>
<td>2*</td>
<td>4*</td>
<td></td>
</tr>
<tr>
<td><strong>Inflammatory bowel disease</strong></td>
<td>(Ulcerative colitis, Crohn's disease)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2/3*</td>
</tr>
<tr>
<td><strong>Thrombosis</strong></td>
<td>a) Benign</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>i) Focal nodular hyperplasia</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii) Hepatic adenomas</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) Malignant (hepatoma)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Liver tumors</strong></td>
<td>a) Benign</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>i) Focal nodular hyperplasia</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii) Hepatic adenomas</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) Malignant</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Multiple sclerosis</strong></td>
<td>a) With prolonged immobilization</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>b) Without prolonged immobilization</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Obesity</strong></td>
<td>a) Body mass index (BMI) ≥30 kg/m²</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3*</td>
<td>3*</td>
<td>3/4*</td>
</tr>
<tr>
<td></td>
<td>b) Menarche to &lt;18 years and BMI ≥ 30 kg/m²</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Ovarian cancer</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Parity</strong></td>
<td>a) Nulliparous</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>b) Parous</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Pelvic inflammatory disease</strong></td>
<td>a) Past</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>i) With subsequent pregnancy</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>ii) Without subsequent pregnancy</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>b) Current</td>
<td>4</td>
<td>2*</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Peripartum cardiomyopathy</strong></td>
<td>a) Normal or mildly impaired cardiac function</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>i) &lt;6 months</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ii) ≥6 months</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>b) Moderately or severely impaired cardiac function</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td><strong>Postabortion</strong></td>
<td>a) First trimester</td>
<td>1*</td>
<td>1*</td>
<td>1*</td>
<td>1*</td>
<td>1*</td>
<td>1*</td>
</tr>
<tr>
<td></td>
<td>b) Second trimester</td>
<td>1*</td>
<td>1*</td>
<td>1*</td>
<td>1*</td>
<td>1*</td>
<td>1*</td>
</tr>
<tr>
<td></td>
<td>c) Immediate postpartum abortion</td>
<td>4</td>
<td>4</td>
<td>1*</td>
<td>1*</td>
<td>1*</td>
<td>1*</td>
</tr>
<tr>
<td><strong>Postpartum (nonbreastfeeding women)</strong></td>
<td>a) &lt;21 days</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) 21 days to 42 days</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>i) With other risk factors for VTE</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii) Without other risk factors for VTE</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c) &gt;42 days</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Postpartum (in breastfeeding or non-breastfeeding women, including cesarean delivery)</strong></td>
<td>a) ≤10 minutes after delivery of the placenta</td>
<td>1*</td>
<td>1*</td>
<td>2*</td>
<td>1*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>i) By breastfeeding</td>
<td>1*</td>
<td>2*</td>
<td>1*</td>
<td>1*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii) Nonbreastfeeding</td>
<td>1*</td>
<td>1*</td>
<td>2*</td>
<td>1*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) 10 minutes after delivery of the placenta to &lt;4 weeks</td>
<td>2*</td>
<td>2*</td>
<td>1*</td>
<td>1*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>c) ≥4 weeks</td>
<td>1*</td>
<td>1*</td>
<td>1*</td>
<td>1*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>d) Postpartum sepsis</td>
<td>4</td>
<td>4</td>
<td>1*</td>
<td>1*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Pregnancy

- **Rheumatoid arthritis**
  - a) On immunosuppressive therapy | 4* | 4* | NA* | NA* | NA* | NA* |
- **Schistosomiasis**
  - a) Uncomplicated | 1 | 1 | 1 | 1 |
  - b) Fibrosis of the liver | 1 | 1 | 1 | 1 |
- **Sexually transmitted diseases (STDs)**
  - a) Current purulent cervicitis or chlamydial infection or gonococcal infection | 4 | 2* | 4* | 1* | 1 | 1 |
  - b) Vaginitis (including chlamydomas vaginitis and bacterial vaginosis) | 2 | 2 | 2 | 1 | 1 |
  - c) Other factors relating to STDs | 2* | 2* | 2* | 2* |
- **Smoking**
  - a) Age <35 | 1 | 1 | 1 | 1 |
  - b) Age ≥35, <15 cigarettes/day | 1 | 1 | 1 | 1 |
  - c) Age ≥35, ≥15 cigarettes/day | 1 | 1 | 1 | 1 |
- **Solid organ transplantation**
  - a) Complicated | 3 | 2 | 3 | 2 | 2 | 2 |
  - b) Uncomplicated | 2 | 2 | 2 | 2 | 2* |
- **Stroke**
  - a) History of cerebrovascular accident | 1 | 1 | 1 | 1 | 1 | 1 |
- **Systemic lupus erythematosus**
  - a) Positive (or unknown) antiphospholipid antibodies | 1* | 1* | 3* | 3* | 3* | 3* |
  - b) Severe thrombocytopenia | 2* | 3* | 3* | 3* | 2* | 2* |
  - c) Immune suppressive therapy | 2* | 2* | 2* | 2* |
  - d) None of the above | 1* | 1* | 2* | 2* | 2* |
- **Thyroid disorders**
  - Simple goiter/ hyperthyroid/hypothyroid | 1 | 1 | 1 | 1 | 1 |
- **Tuberculosis**
  - a) Active (see Drug Interactions) | 1 | 1 | 1 | 1 | 1 |
  - b) History | 1 | 1 | 1 | 1 |
- **Unexplained vaginal bleeding**
  - Suspicious for serious condition before evaluation | 4* | 2* | 4* | 2* |
| **Uterine fibroids** | 1 | 1 | 1 | 1 | 1 | 2 |
| **Valvular heart disease** | a) Uncomplicated | 1 | 1 | 1 | 1 |
  - b) Complicated | 1 | 1 | 1 | 1 |
- **Vaginal bleeding patterns**
  - a) Irregular pattern without heavy bleeding | 1 | 1 | 1 | 2 | 2 | 1 |
  - b) Heavy or prolonged bleeding | 2* | 1* | 2* | 1* |
  - c) Heavy or prolonged bleeding | 2* | 1* | 2* | 1* |
  - d) Heavy or prolonged bleeding | 2* | 1* | 2* | 1* |
- **Viral hepatitis**
  - a) Acute or flare | 1 | 1 | 1 | 1 | 1 | 1 |
  - b) Carrier/Chronic | 1 | 1 | 1 | 1 | 1 | 1 |

### Drug Interactions

- **Antiretroviral therapy**
  - All other ARVs are 1 or 2 for all methods.
  - Fosamprenavir (FPV) | 1/2* |
  - a) Certain anticonvulsants (phenytoin, carbamazepine, barbiturates, primidone, cnyrapimide, oxcarbazepine) | 1 | 1 | 1 | 1 | 1 |
  - b) Lamotrigine | 1 | 1 | 1 | 1 | 1 |
  - c) Anticonvulsant therapy | 1 | 1 | 1 | 1 |
  - d) Rifampin or rifabutin therapy | 1* | 1* |
  - e) SSRIs | 1 | 1 | 1 | 1 | 1 |

Updated July 2016. This summary sheet only contains a subset of the recommendations from the U.S. MEC. For complete guidance, see: http://www.cdc.gov/reproductivehealth/SummaryChartofU.S.MEC.htm. Most contraceptive methods do not protect against sexually transmitted diseases (STDs). Consistent and correct use of the male latex condom reduces the risk of STDs and HIV.