Teen Pregnancy Prevention: Application of CDC’s Evidence-Based Contraception Guidance

Division of Reproductive Health
Centers for Disease Control and Prevention

November 1, 2013
Learning Objectives

Participants will be able to:

- Review the trends in teen pregnancy, sexual behavior and contraceptive use
- Describe current contraceptive methods available to teens
- Describe the current evidence-based recommendations about the safety and effectiveness of contraceptive methods for teens
SECTION I. TRENDS IN TEEN PREGNANCY, SEXUAL BEHAVIOR AND CONTRACEPTIVE USE
Current Trends

1. Pregnancy, birth and abortion rates are declining in the U.S. for teens aged 15-19 years old
2. Teen birth rates vary by age, race/ethnicity and state
3. The U.S. still has the highest teen birth rate of any industrialized country
4. Teens use less effective methods and use these methods inconsistently
Pregnancy, birth and abortion rates for teens, 15-19 years old

Figure 1. Pregnancy, birth and abortion rates for teenagers 15-19 years: United States

Adolescent pregnancy in U.S.

3 in 10 adolescent girls will become pregnant by age 20

The National Campaign to Prevent Teen and Unplanned Pregnancy, February 2011.
Adolescent pregnancy in U.S.

5 in 10 black and Hispanic girls will become pregnant by age 20

The National Campaign to Prevent Teen and Unplanned Pregnancy, February 2011.
Teen Birth Rate by Age

Figure 1. Birth rates for women aged 15–19: United States, 1940–2010, and by age, 1960–2010

- 18–19 years
- 15–19 years
- 15–17 years

NOTE: Data for 2010 are preliminary.
Teen Birth Rate by Race and Ethnicity

Birth Rates (Live Births) per 1,000 Females Aged 15–19 Years, by Race and Hispanic Ethnicity, 2000–2011

Teen birth rates by state per 1,000 girls aged 15-19 years, 2009

Teen birth rates were lowest in the Northeast and upper Midwest and highest across the southern states.

SOURCE: National Center for Health Statistics; 2009.
Teen Birth Rate (per 1,000 females, 15-19 years old) by Country

*All birth rates are for 2008 unless otherwise noted.

Percent of pregnancies that are unintended U.S., 2006

Finer, Contraception, 2011;84:478.
## Consequences

### Infant
- Prematurity
- Infant mortality
- Abuse
- Future teen pregnancy

### Teen Mom
- Low educational attainment
- Unemployment
- Poverty
- Risk for repeat pregnancy

### Society
- $9.1 billion in 2004

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Santelli and Melnikas, 2010  
Klein, JD and the Committee on Adolescence, 2006
Goals of Teen Pregnancy Prevention

- Decrease pregnancies among female teens
- Delay initiation of teen sexual activity
- Increase use of effective contraceptive methods

http://www.cdc.gov/winnablebattles/Goals.html
Percentage of High School Students Who Ever Had Sexual Intercourse, by Sex* and Race/Ethnicity, † 2011

* M > F
† B > H > W

National Youth Risk Behavior Survey, 2011
Percentage of High School Students Who Were Currently Sexually Active,* by Sex and Race/Ethnicity, †

2011

* Had sexual intercourse with at least one person during the 3 months before the survey.
† B > W, H

National Youth Risk Behavior Survey, 2011
Use of contraception among sexually experienced females, 15-19 years old


Use of contraception at first sex among females, 15-19 years old

Figure 2. Use of contraception at first sex among females aged 15-19, by method used: United States, 2006-2010

1Includes Lunelle injectable, emergency contraception, and contraceptive patch in 2002; adds contraceptive ring (Nuva-Ring) and Implanon implant in 2006-2010.

NOTE: See Table 11.

Use of Contraceptive at Last Sex among Teens

- Females, 15-19 years old: 86%
- Males, 15-19 years old: 93%

Martinez et al., NSFG/NCHS, 2011.
Percentage of High School Students Who Used a Condom During Last Sexual Intercourse, * by Sex† and Race/Ethnicity,§ 2011

- **Total**: 60.2%
- **Female**: 53.6%
- **Male**: 67.0%
- **White**: 59.5%
- **Black**: 65.3%
- **Hispanic**: 58.4%

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* Among the 33.7% of students nationwide who were currently sexually active.
† M > F
§ B > H

National Youth Risk Behavior Survey, 2011
Impact of inconsistent and non-use of contraception on teen pregnancies

- 46% due to non-use of contraception
- 54% due to contraceptive failure
  - Effectiveness of method
  - Consistent and correct use

Santelli et al., 2006
Declines in Adolescent pregnancy and Unmet Need for contraception

- Majority of decline attributable to increased contraceptive use among adolescents

- Among adolescents who become pregnant, about half due to contraceptive failure
  - Failure of method
  - Failure to use correctly and consistently

Santelli, Persp Sex Reprod Health, 2006;38:106.
### Why teen moms did not use contraception

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thought could not get pregnant</td>
<td>31.4</td>
</tr>
<tr>
<td>Partner did not want to use contraception</td>
<td>23.6</td>
</tr>
<tr>
<td>Did not mind if got pregnant</td>
<td>22.1</td>
</tr>
<tr>
<td>Trouble getting birth control</td>
<td>13.1</td>
</tr>
<tr>
<td>Side effects from contraception</td>
<td>9.4</td>
</tr>
<tr>
<td>Thought she or partner was sterile</td>
<td>8.0</td>
</tr>
</tbody>
</table>

CDC, MMWR 2012;61:25.
Abstinence is the only 100% effective way to prevent HIV, other sexually transmitted infections (STIs), and pregnancy.
SECTION II.
CONTRACEPTIVE METHODS
Use of Specific Methods by females, 15-19 years old

Effectiveness of family planning methods

<table>
<thead>
<tr>
<th>Method</th>
<th>Tier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implant</td>
<td>Tier 1</td>
</tr>
<tr>
<td>Reversible intrauterine device (IUD)</td>
<td>Tier 2</td>
</tr>
<tr>
<td>Male sterilization (Vasectomy)</td>
<td>Tier 3</td>
</tr>
<tr>
<td>Female sterilization (Abdominal, laparoscopic, hysteroscopic)</td>
<td>Tier 3</td>
</tr>
</tbody>
</table>

How to make your method most effective:
- After procedure, little or nothing to do or remember.
- Vasectomy and hysteroscopic sterilization: Use another method for first 3 months.

<table>
<thead>
<tr>
<th>Method</th>
<th>Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injectable</td>
<td>0.05%*</td>
</tr>
<tr>
<td>Pill</td>
<td>0.2%</td>
</tr>
<tr>
<td>Patch</td>
<td>0.8%</td>
</tr>
<tr>
<td>Diaphragm</td>
<td>12%</td>
</tr>
<tr>
<td>Condoms, sponge, withdrawal, spermicides</td>
<td>16%</td>
</tr>
<tr>
<td>Fertility awareness-based methods</td>
<td>21%</td>
</tr>
<tr>
<td>Spermidical</td>
<td>22%</td>
</tr>
<tr>
<td>(Standard Days Method and TwoDay Method)</td>
<td>24%</td>
</tr>
</tbody>
</table>

*The percentages indicate the number out of every 100 women who experienced an unintended pregnancy within the first year of each contraceptive method.

Typical Use and Perfect Use

**Typical Use**
- Failure rate
- Average person
- Not always consistent or correct
- During first year

**Perfect Use**
- Failure rate
- Use is consistent and correct
- At every sex act
- During the first year

Trussell, 2011
Reversible Tier 1 Methods: “Most Effective”

Long Acting Reversible Contraception (LARC)
- Levonorgestrel-releasing intrauterine system
- Copper IUD
- Implant
TIER 1 for Adolescents: Long Acting Reversible Contraception (LARC)

- “Forgettable contraception”
- Not dependent on compliance/adherence
- “Expanding access to LARC for young women has been declared a national priority” (IOM)
- “Should be considered as first-line choices for both nulliparous and parous adolescents” (ACOG 2007)

Levonorgestrel IUD

- Effective for at least 3 or 5 years
- Side effects: irregular bleeding
- Reduces dysmenorrhea and menstrual blood loss
- Does not protect against STIs
Copper intrauterine device (IUD)

- Approved for 10 years
- Effective for at least 12 years
- Side effects: irregular bleeding, heavy bleeding
- Most effective emergency contraception
- Does not protect against STIs

Contraceptive Technology, 20th edition
http://www.accessdata.fda.gov/scripts/cder/drugsatfda
Contraceptive implant

- Effective for at least 3 years
- Side effects: irregular bleeding
- Does not protect against STIs
Tier 2 Methods: “Moderately Effective”

- Injectable (DMPA)
- Pill
- Patch
- Ring
Correct and consistent use

- Methods that require more effort by the user have higher typical failure rates
- Correct and consistent use of pills and condoms may be difficult for all ages
- Women ages 18-24, in last 3 months
  - 45% missed ≥ 1 pill
  - 62% did not use condoms every time

Frost and Darroch, 2008
Depot medroxyprogesterone acetate (DMPA)

- One injection every 3 months
- Reliable contraception for 3 months, but effects may last up to 9 months
- Side effects: irregular bleeding and amenorrhea
- Does not protect against STIs
Contraceptive pills

- Combined pills contain estrogen and progestin (COCs)
- Progestin-only pills (POPs)
- Extended use
- Side effects: irregular bleeding
- Do not protect against STIs

Contraceptive Technology, 20th edition
Contraceptive patch

- Releases estrogen and progestin
- One patch per week for 3 weeks, then 1 patch-free week
- Side effects: irregular bleeding
- Does not protect against STIs
Contraceptive vaginal ring

- Releases estrogen and progestin
- One ring for 3 weeks, then 1 ring-free week
- Side effects: irregular bleeding
- Does not protect against STIs

Contraceptive Technology, 20th edition
Quick Start

- Initiation of contraception on any day of the cycle
- More reliable and faster protection from unplanned pregnancies
- Advise 7 days of backup or abstinence
- Improves short-term continuation
- No increase in unscheduled bleeding

Contraceptive Technology, 20th edition
# 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>Bimanual examination and cervical inspection*</td>
</tr>
<tr>
<td>Levonorgestrel-releasing IUD</td>
<td>Anytime</td>
<td>If ≥ 7 days after menses started, use back-up method or abstain for ≥ 7 days.</td>
<td>Bimanual examination and cervical inspection*</td>
</tr>
<tr>
<td>Implant</td>
<td>Anytime</td>
<td>If ≥ 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 ≥ 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 ≥ 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 ≥ 5 days after menses started, use back-up method or abstain for ≥ 2 days.</td>
<td>None</td>
</tr>
</tbody>
</table>

*Abbreviations: BMI = body mass index; HIV = human immunodeficiency virus; IUD = intrauterine device; STD = sexually transmitted disease; U.S. MEC = U.S. Medical Eligibility Criteria for Contraceptive Use, 2010.

*Weight (BMI) measurement is not needed to determine medical eligibility for any methods of contraception because all methods can be used (U.S. MEC 1) or generally can be used (U.S. MEC 2) among obese women (Box 2). However, measuring weight and calculating BMI (weight [kg]/[height [m]]

*Most women do not require additional STD screening at the time of IUD insertion if they have already been screened according to CDC’s STD Treatment Guidelines (available at http://www.cdc.gov/std/treatment). If a woman has not been screened according to guidelines, screening can be performed at the time of IUD insertion, and insertion should not be delayed. Women with purulent cervicitis or current chlamydial infection or gonorrhea should not undergo IUD insertion (U.S. MEC 4). Women who have a very high individual likelihood of STD exposure (e.g., those with a currently infected partner) generally should not undergo IUD insertion (U.S. MEC 3) (Box 2). For these women, IUD insertion should be delayed until appropriate testing and treatment occurs.
Tier 3:
“Least Effective”

- Condoms (male and female)
- Diaphragms, cervical cap, sponge
- Fertility awareness-based methods
- Withdrawal
- Spermicides

Contraceptive Technology, 20th edition
Emergency Contraception

- Up to 120 hours after unprotected sex
- Two methods of delivery
  - Copper IUD
  - Emergency Contraceptive Pills (ECPs)
Emergency contraceptive pills

- Ulipristal acetate
  - Anti-progesterone, single pill
  - More effective than LNG between 3-5 days
  - May be more effective than LNG among obese
  - Prescription only

- Levonorgestrel
  - Available as one or two pills
  - Progestin-only

- Yuzpe Method
  - Combined estrogen/progestin pills, multiple pills
  - Less effective, more side effects

Contraceptive Technology, 20th edition
US Selected Practice Recommendations, 2013
Non-contraceptive benefits

- **Dysmenorrhea**: COCs, implant, LNG-IUD
- **Cycle Control**: LNG-IUD, DMPA, OCPs
- **Cancer protection**: COCs protect against ovarian and endometrial cancer
- **Ectopic Pregnancy**: COCs
- **Acne**: COCs and possibly patch and ring
- **Menstrual suppression**: Continuous CHCs, DMPA, implants, LNG-IUD
- **Pain from Endometriosis**: COCs, DMPA, implant, LNG-IUD
- **Premenstrual or menstrual-related symptoms**: extended or continuous use of CHCs, or any menstrual suppression

Contraceptive Technology, 20th edition
ACOG Practice Bulletin No 110, 2012
DUAL PROTECTION
Typical effectiveness of family planning methods:

**Tier 1**
- Implant: 0.05%*
- LNG - 0.2% Copper T - 0.8%

**Tier 2**
- Male Sterilization (Vasectomy)

**Tier 3**
- Permanent Female Sterilization (Abdominal, Laparoscopic, Hysteroscopic)

*The percentages indicate the number out of every 100 women who experienced an unintended pregnancy within the first year of typical use of each contraceptive method.*

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Condoms

- Male and female condoms
- Male latex condoms reduce risk of STIs, including HIV, when used correctly and consistently
- Female condoms give women shared responsibility of the condom in addition to reducing the risk of STIs and HIV.
Chlamydia—Rates by Age and Sex, United States, 2011

CDC, 2011
Effectiveness of Contraceptive Methods at Preventing STIs and Pregnancy

**STI Protection**
- Good
  - Male Condoms
  - Female Condoms
  - Spermicides
  - Periodic Abstinence
- Moderate
  - IUD
  - OCs
  - Injectables
  - Implants
- None

**Pregnancy Protection (Typical Use)**
- Moderate
  - Dual Protection Strategies
    - Hormonal/IUD + condoms (dual method)
    - Consistent condom use

Dual Protection Guidance

- "{COCs, POC, IUDs} do not protect against STI/HIV. If risk exists for STI/HIV, the correct and consistent use of condoms is recommended either alone or with another contraceptive method. “ ---U.S. Medical Eligibility Criteria for Contraceptive Use

- “Condoms...should be used by all sexually active adolescents regardless of whether an additional method of contraception is used..... When initiating any hormonal contraceptive method, the need for consistent protection against STIs (either male or female condoms) should be reinforced. “ --- American Academy of Pediatrics, Committee on Adolescence

AAP: Contraception and Adolescents . Pediatrics 2007;120;1135-48
Dual Protection in Healthy People 2020

- **FP-10** Increase the proportion of sexually active persons aged 15 to 19 years who use condoms to both effectively prevent pregnancy and provide barrier protection against disease

- **FP-11** Increase the proportion of sexually active persons aged 15 to 19 years who use condoms and hormonal or intrauterine contraception to both effectively prevent pregnancy and provide barrier protection against disease

# Prevalence of Dual Protection among Female Teens in the U.S.

<table>
<thead>
<tr>
<th>Source</th>
<th>Population</th>
<th>Dual Method (at last sex) (hormonal and condom)</th>
<th>Consistent Condom Use (last 4 weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSFG, 2006-2008</td>
<td>Ages 15-19, sexually active unmarried females</td>
<td>20.8%</td>
<td>51.6%</td>
</tr>
</tbody>
</table>

SECTION III.
US FAMILY PLANNING GUIDANCE
US MEDICAL ELIGIBILITY CRITERIA, 2010
MEC Categories

1. A condition for which there is no restriction for the use of the contraceptive method.

2. A condition where the advantages of using the method generally outweigh the theoretical or proven risks.

3. A condition where the theoretical or proven risks usually outweigh the advantages of using the method.

4. A condition which represents an unacceptable health risk if the contraceptive method is used.
How YOU can use the US MEC
### Summary of MEC by age

<table>
<thead>
<tr>
<th>Method</th>
<th>COC, Patch, Ring</th>
<th>POP</th>
<th>Implant</th>
<th>Barrier</th>
<th>Injection</th>
<th>IUD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>&lt; 40 All ages</td>
<td>All ages</td>
<td>All ages</td>
<td>All ages</td>
<td>&lt;18</td>
<td>&lt; 20</td>
</tr>
<tr>
<td><strong>MEC</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MEC</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No restriction</td>
</tr>
<tr>
<td>2</td>
<td>Generally can use</td>
</tr>
<tr>
<td>3</td>
<td>Generally do not use</td>
</tr>
<tr>
<td>4</td>
<td>Do not use</td>
</tr>
</tbody>
</table>
Contraception: Myths and Misconceptions

- **Myth:** IUDs cause pelvic inflammatory disease and infertility
  - **Fact:** Chlamydia and gonorrhea cause PID and can lead to infertility

- **Myth:** DMPA causes fractures
  - **Fact:** Small amount of bone mineral density lost during use, regained after discontinuation

- **Myth:** Contraceptive pills cause cancer
  - **Fact:** Protects against ovarian and endometrial cancer
Barriers to LARC provision

- Patient preference
- Concern about safety
  - Risk of PID
  - Nulliparous, adolescent, not monogamous
- Not trained in IUD insertion
- IUDs not available

Tyler, Obstet Gynecol 2012;119:762
Madden, Contraception 2010;81:112..
Teen use of LARCs

- **Barriers**
  - Cost
  - Knowledge and attitudes
    - 80% of adolescents never heard of IUD

- **Opportunity**
  - CHOICE project, St. Louis
  - Women educated about LARC
  - All methods provided without cost
  - 62% of adolescents chose LARC
  - 69% of ages 14-17
  - 61% of ages 18-20

Whitaker, Contraception 2008;78:211.
Mestad, Contraception 2011;84:493.
Clinical Scenario 1

- 16 year old female, healthy, nulliparous, currently using condoms, but wants more reliable method. Which of the following options are available to her?

A. IUD (copper or levonorgestrel)
B. Implants
C. DMPA
D. Combined hormonal methods (pill, patch, ring)
Safety of IUDs for Teens

- **IUDs and age <20: US MEC 2**
- **IUDs and Expulsion**
  - Evidence shows slightly increased risk of expulsion in younger women
- **IUDs and infertility**
  - No evidence that IUDs cause later infertility
  - Infertility associated with gonorrhea and Chlamydia
- **IUDs and STIs**
  - No evidence that IUDs increase risk of STI acquisition
  - Women with current cervicitis, chlamydial infection, gonorrhea should not start an IUD (US MEC 4)
  - Women with a very high individual likelihood of exposure to chlamydial infection or gonorrhea generally should not start an IUD (US MEC 3)
Safety of DMPA for Teens

- **DMPA and age <18: US MEC 2**
- **DMPA and Bone mineral density**
  - Small amounts of BMD lost using DMPA
  - BMD regained after discontinuation
  - Unclear how BMD relates to fracture risk in adolescents
  - No evidence that DMPA increases fracture in adolescents
- **DMPA and Obesity**
  - Obese adolescents who use DMPA may be more likely to gain weight than non-obese DMPA users and obese users of other methods
Clinical Scenario 1

• 16 year old female, healthy, nulliparous, currently using condoms, but wants more reliable method. What options are available to her?

A. IUD (copper or levonorgestrel) (US MEC 2)
B. Implants (US MEC 1)
C. DMPA (US MEC 2)
D. Combined hormonal methods (pill, patch, ring) (US MEC 1)

ALL OF THE ABOVE! Plus...

Encourage continued condom use for dual protection
Clinical Scenario 2

• 18 year old G1P0, pregnant, and being counseled for postpartum family planning. She is not planning on breastfeeding. What options are available to her immediately postpartum?

A. IUD (copper or levonorgestrel)
B. Progestin-only methods (pill, injectable, implant)
C. Combined hormonal methods (pill, patch, ring)
# Postpartum: Hormonal Contraception

<table>
<thead>
<tr>
<th>Condition</th>
<th>Combined methods</th>
<th>Progestin-only methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postpartum (non-breastfeeding women)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) &lt; 21 days</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>b) 21 days to 42 days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i) With other risk factors for VTE</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>ii) Without other risk factors for VTE</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>c) &gt; 42 days</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th></th>
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<tr>
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<td>2</td>
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<td>3</td>
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</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
### Postpartum IUD Insertion

<table>
<thead>
<tr>
<th>Condition</th>
<th>Sub-Condition</th>
<th>LNG-IUD</th>
<th>Cu-IUD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Postpartum</strong> <em>(In breastfeeding and non-breastfeeding women, including post-caesarian women)</em></td>
<td>a) &lt;10 minutes after delivery of placenta</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>b) 10 minutes after delivery of placenta to &lt;4 weeks</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>c) ≥ 4 weeks</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>d) Puerperal sepsis</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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</table>
Clinical Scenario 2

- 18 year old G1P0, pregnant, and being counseled for postpartum family planning. She is not planning on breastfeeding. What options are available to her immediately postpartum?

A. IUD (copper or levonorgestrel) (US MEC 2)
B. Progestin-only methods (pill, injectable, implant) (US MEC 1)
C. Combined hormonal methods (pill, patch, ring) (US MEC 4)  
   (Wait until 21-42 days postpartum, depending on VTE risk factors)

Encourage Dual protection with condom use
Clinical Scenario 3

• 16yo nulliparous female with heavy cycles and dysmenorrhea presents with her mother since she is missing school at the start of most periods. She is sexually active with her boyfriend using condoms. What options are available to her?
  A. IUD (copper or levonorgestrel)
  B. Implants
  C. DMPA
  D. Combined hormonal methods (pill, patch, ring)
Clinical Scenario 3

- 16yo nulliparous female with heavy cycles and dysmenorrhea presents with her mother since she is missing school at the start of most periods. She is sexually active with her boyfriend using condoms. What options are available to her?
  A. IUD (copper or levonorgestrel) (US MEC 2)
  B. Implants (US MEC 1)
  C. DMPA (US MEC 2)
  D. Combined hormonal methods (pill, patch, ring) (US MEC 1)
  E. All of the above

Encourage continued condom use for dual protection
US SELECTED PRACTICE RECOMMENDATIONS
U.S. Selected Practice Recommendations for Contraceptive Use, 2013
Adapted from the World Health Organization Selected Practice Recommendations for Contraceptive Use, 2nd Edition

Continuing Education Examination available at http://www.cdc.gov/mmwr/ceco/content.html.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
US Selected Practice Recommendations for Contraceptive Use, 2013

- Follow-up to US Medical Eligibility Criteria for Contraceptive Use, 2010
- Adapted from World Health Organization
- Intent: Evidence-based guidance for common, yet controversial contraceptive management questions
  - When to start
  - Missed pills
  - Bleeding problems
  - Exams and test
  - Follow-up
  - How to be reasonably certain that a woman is not pregnant
US Selected Practice Recommendations for Contraceptive Use, 2013

- Target audience: health-care providers
- Guidance intended to assist health care providers when they counsel patients about contraceptive use
- Applies to women of all ages, including adolescents
- What is NOT included in the US SPR
  - NOT the Medical Eligibility Criteria
  - NOT comprehensive textbook
  - NOT rigid guidelines
  - NOT well-woman care
Format of US SPR

- Arranged by contraceptive method
- For each recommendation:
  - Recommendation itself
  - Comments and evidence summary
- Simplified text of actual recommendations
- Bullets, tables, flowcharts, algorithms
How YOU can use the US SPR

U.S. Selected Practice Recommendations for Contraceptive Use, 2013
Adapted from the World Health Organization Selected Practice Recommendations for Contraceptive Use, 2nd edition
CLINICAL SCENARIOS
Clinical Scenario 1: When to start a contraceptive method?

- 16 y.o. female comes to office desiring contraception and decides she wants the implant.

Q: When can she start?
When can a woman start a contraceptive method

- **Barriers to starting any method**
  - Starting during menses
  - Coming back for a second (or more) visit
  - Filling a prescription

- **Starting when woman requests contraception** ("Quick start")
  - May reduce time woman is at risk for pregnancy
  - May reduce barriers to starting
### 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 test needed before initiation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper-containing IUD</td>
<td>Anytime</td>
<td>Not needed</td>
<td>Bimanual examination and cervical inspection</td>
</tr>
<tr>
<td>Levonorgestrel-releasing IUD</td>
<td>Anytime</td>
<td>If ≥7 days after menses started, use back-up method or abstain for 7 days.</td>
<td>Bimanual examination and cervical inspection</td>
</tr>
<tr>
<td>Implant</td>
<td>Anytime</td>
<td>If ≥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 ≥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 ≥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 ≥5 days after menses started, use back-up method or abstain for 2 days.</td>
<td>None</td>
</tr>
</tbody>
</table>

Abbreviations: BMI = body mass index; HIV = human immunodeficiency virus; IUD = intrauterine device; STD = sexually transmitted disease; U.S. MEC = U.S. Medical Eligibility Criteria for Contraceptive Use, 2010.

* Weight (BMI) measurement is not needed to determine medical eligibility for any method of contraception because all methods can be used (U.S. MEC 1) or generally can be used (U.S. MEC 2) among obese women (Box 2). However, measuring weight and calculating BMI (weight [kg]/height [m]^2) at baseline might be helpful for monitoring any changes and counseling women who might be concerned about weight change perceived to be associated with the contraceptive method.

* Most women do not require additional STD screening at the time of IUD insertion if they have already been screened according to CDC’s STD Treatment Guidelines (available at http://www.cdc.gov/std/treatment). If a woman has not been screened according to guidelines, screening can be performed at the time of IUD insertion, and insertion should not be delayed. Women with purulent cervicitis or current chlamydial infection or gonorrhea should not undergo IUD insertion (U.S. MEC 4). Women who have a very high individual likelihood of STD exposure (e.g., those with a currently infected partner) generally should not undergo IUD insertion (U.S. MEC 3) (Box 2). For these women, IUD insertion should be delayed until appropriate testing and treatment occurs.
When to start a contraceptive method: Other situations

- Amenorrheic
- Postpartum
  - Breastfeeding
  - Not breastfeeding
- Postabortion
- Switching from another contraceptive method
Clinical Scenario 1: When to start a contraceptive method?

- 16 y.o. female comes to office desiring contraception and decides she wants the implant.

Q: When can she start?

A: Anytime, if reasonably certain she is not pregnant.

- If it has been more than 5 days since menstrual bleeding started, she will need to abstain from sex or use additional contraceptive protection for the next 7 days.
Clinical Scenario 2: How to be reasonably certain that a woman is not pregnant

- 16 y.o. female comes to office desiring contraception and decides she wants the implant.

Q: How can you be reasonably certain she is not pregnant?
Evidence: Pregnancy test limitations

- Pregnancy detection rates can vary based on sensitivity of test and timing with respect to missed menses
- Pregnancy test not able to detect pregnancy resulting from recent intercourse
- Pregnancy test may remain positive several weeks after pregnancy ends

BOX 1. How To Be Reasonably Certain that a Woman Is Not Pregnant

A health-care provider can be reasonably certain that a woman is not pregnant if she has no symptoms or signs of pregnancy and meets any one of the following criteria:

- is $\leq 7$ days after the start of normal menses
- has not had sexual intercourse since the start of last normal menses
- has been correctly and consistently using a reliable method of contraception
- is $\leq 7$ days after spontaneous or induced abortion
- is within 4 weeks postpartum
- is fully or nearly fully breastfeeding (exclusively breastfeeding or the vast majority [$\geq 85\%$] of feeds are breastfeeds),* amenorrheic, and $< 6$ months postpartum

# Evidence on Pregnancy Checklist (PC)

<table>
<thead>
<tr>
<th>Study, year, country</th>
<th># Women</th>
<th>Positive preg test</th>
<th>Sensitivity of PC</th>
<th>Specificity of PC</th>
<th>PPV of PC</th>
<th>NPV of PC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stanback, 1999, Kenya</td>
<td>1852</td>
<td>1%</td>
<td>64%</td>
<td>89%</td>
<td>6%</td>
<td>99%</td>
</tr>
<tr>
<td>Stanback, 2006, Kenya</td>
<td>1852 (without signs/sx)</td>
<td>1%</td>
<td>55%</td>
<td>90%</td>
<td>6%</td>
<td>99%</td>
</tr>
<tr>
<td>Stanback, 2008, Nicaragua</td>
<td>263</td>
<td>1%</td>
<td>100%</td>
<td>60%</td>
<td>3%</td>
<td>100%</td>
</tr>
<tr>
<td>Torpey, 2010, Africa</td>
<td>535 HIV+</td>
<td>4%</td>
<td>90.9%</td>
<td>38.7%</td>
<td>6%</td>
<td>99%</td>
</tr>
</tbody>
</table>

Stanback, J Fam Plann Reprod Health Care, 2006;32:27.  
Clinical scenario 2: How to be reasonably certain that a woman is not pregnant

• 16 y.o. female comes to office desiring contraception and decides she wants the implant.

Q: How can you be reasonably certain she is not pregnant?

A: If she has no signs or symptoms of pregnancy and fulfills one of criteria, a provider can be reasonably certain that the women is not pregnant.
Clinical Scenario 3: Exams and tests

- 16 y.o. female comes to office desiring contraception and decides she wants the implant.

Q: Do you need to do any exams or test before she starts?
US SPR
Exams and tests prior to initiation

• Unnecessary tests may be barrier to starting
  • Women (adolescents) may not be comfortable with pelvic exam
  • Coming back for a second (or more) visit to receive test results

• Recommendations address exams and test needed prior to initiation
  • Class A = essential and mandatory
  • Class B = contributes substantially to safe and effective use, but implementation may be considered within the public health and/or service context
  • Class C = does not contribute substantially to safe and effective use of the contraceptive method
<table>
<thead>
<tr>
<th>Examination or test</th>
<th>Contraceptive method and class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examination</td>
<td>LNG and Cu IUD</td>
</tr>
<tr>
<td>Blood pressure</td>
<td>C</td>
</tr>
<tr>
<td>Weight (BMI)</td>
<td>†</td>
</tr>
<tr>
<td>Clinical breast examination</td>
<td>C</td>
</tr>
<tr>
<td>Bimanual examination and cervical inspection</td>
<td>A</td>
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<tr>
<td>Laboratory test</td>
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<tr>
<td>Glucose</td>
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<tr>
<td>Thrombogenic mutations</td>
<td>C</td>
</tr>
<tr>
<td>Cervical cytology (Papanicolaou smear)</td>
<td>C</td>
</tr>
<tr>
<td>STD screening with laboratory tests</td>
<td>§</td>
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<tr>
<td>HIV screening with laboratory tests</td>
<td>C</td>
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</tbody>
</table>
### US SPR
Exams and tests prior to initiation

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</table>
Pelvic Exam before Initiating Contraception

- Is not necessary before starting implant
- No US MEC 3 or 4 conditions will be detected by pelvic
- Evidence:
  - Two case-control studies
  - Delayed versus immediate pelvic exam before contraception
# US SPR
Exams and tests prior to initiation

<table>
<thead>
<tr>
<th>Examination or test</th>
<th>Contraceptive method and class</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Examination</strong></td>
<td>LNG and Cu-IUD Implant Injectable CHC POP Condom Diaphragm or cervical cap Spermicide</td>
</tr>
<tr>
<td>Blood pressure</td>
<td>C C C A* C C C C C</td>
</tr>
<tr>
<td>Weight (BMI)</td>
<td>—† —† —† —† —† C C C C</td>
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<tr>
<td>Clinical breast examination</td>
<td>C C C C C C C C A</td>
</tr>
<tr>
<td>Bimanual examination and cervical inspection</td>
<td>A C C C C C C A C</td>
</tr>
<tr>
<td>Laboratory test</td>
<td>Glucose Lipids Liver enzymes Hemoglobin Thrombogenic mutations Cervical cytology (Papanicolaou smear) STD screening with laboratory tests HIV screening with laboratory tests</td>
</tr>
<tr>
<td>Glucose</td>
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</table>
Clinical Scenario 3: Exams and tests

- 16 y.o. female comes to office desiring contraception and decides she wants the implant.

Q: Do you need to do any exams or test before she starts?

A: No
Clinical Scenario 3: Exams and tests

- 16 y.o. female comes to office desiring contraception and now decides she wants the levonorgestrel IUD.

Do any of the previous steps change?

Q1: When can she start?
Q2: How can you be reasonably certain she is not pregnant?
Q3: Do you need to do any exams or test before she starts?
## US SPR
Exams and tests prior to initiation

<table>
<thead>
<tr>
<th>Examination or test</th>
<th>LNG and Cu-IUD</th>
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<th>Injectable</th>
<th>CHC</th>
<th>POP</th>
<th>Condom</th>
<th>Diaphragm or cervical cap</th>
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</table>
Clinical scenario 3: Exams and tests

• 16 y.o. female comes to office desiring contraception and now decides she wants the levonorgestrel IUD.

Q3: Do you need to do any exams or test before she starts?
A: Pelvic exam and STI screening as appropriate.

Centers for Disease Control and Prevention. Sexually Transmitted Diseases Treatment Guidelines, 2010. MMWR 2010;59. No RR-12
Clinical Scenario 4: Emergency Contraception

- 17 y.o. female had unprotected intercourse 4 days ago and is worried about pregnancy.

  Q: What are her emergency contraception options?
Four options available in the US

- **Intrauterine device**
  - copper intrauterine device (Cu-IUD)

- **Emergency contraceptive pills (ECPs)**
  - ulipristal acetate (UPA) available in a single dose (30 mg)
  - levonorgestrel (LNG) in a single dose combined
  - estrogen/progestin in 2 doses
SPR Recommendation on Effectiveness

- Large systematic review of 42 studies showed that the pregnancy rate among emergency IUD users is 0.09%

- UPA and LNG ECPs have similar effectiveness when taken within 3 days after unprotected intercourse
  - UPA has been shown to be more effective than the LNG formulation between 3 and 5 days after unprotected intercourse.

- UPA may be more effective than LNG for women who are obese.

- The combined estrogen/progestin regimen is less effective than UPA or LNG and is associated with more frequent side effects.
Clinical Scenario 4: Emergency Contraception

- 17 y.o. female had unprotected intercourse 4 days ago and is worried about pregnancy.

  Q: What are her emergency contraception options?
  A:
  - Copper IUD
  - Ulipristal acetate
  - Levonorgestrel ECPs
  - Combination estrogen/progestin pills
Clinical Scenario 4: Initiation of regular contraception after emergency contraception pills

- 17 y.o. female had unprotected intercourse 4 days ago and is worried about pregnancy. She has chosen to take UPA.

  Q: When can she start regular contraception after ECPs?
Evidence

- Data limited to expert opinion and product labeling.
- Theoretical concerns for decreased effectiveness of systemic hormonal contraception after UPA use.
- The resumption or initiation of regular hormonal contraception following ECP use involves consideration of the risk of pregnancy if ECPs fail.
US SPR Recommendation: When to initiate regular contraception after emergency contraception pills

- Any regular contraceptive method can be started immediately after the use of ECPs.
- Advise the woman to have a pregnancy test, if she does not have a withdrawal bleed within 3 weeks.
- **UPA**
  - The woman will need to abstain from sex or use barrier contraception for 14 days or her next menses, whichever comes first.
- **LNG and combined estrogen/progestin formulations**
  - The woman will need to abstain from sex or use barrier contraception for 7 days.
Clinical Scenario 4: Initiation of regular contraception after emergency contraception pills

- 17y.o. female had unprotected intercourse 4 days ago and is worried about pregnancy.

  - Q: When can she start regular contraception after ECPs?
  - A: She can start contraception immediately but she will need to abstain from sex or use barrier contraception for 7 days if she uses LNG or 14 days if she uses UPA or until her next menses, whichever comes first.
Take Home Messages

- Rates of adolescent pregnancy in the US are decreasing, but remain high.
- Adolescents who are at risk of unintended pregnancy need access to highly effective contraceptive methods.
- Adolescents are eligible to use all methods of contraception, there is no contraceptive method that an adolescent cannot use based on age alone.
- Long-acting, reversible contraception (LARC) may be particularly suitable for many adolescents:
  - IUDs
  - Implants
- Dual protection should be encouraged for adolescents.
Take Home Messages

- Most women of any age can start methods anytime
- Few, if any, exams or tests are needed
- Anticipatory counseling for potential bleeding problems and proper management provided
- Routine follow-up generally not required
- Discuss emergency contraception often
- Regular contraception should be started after EC
How to find Teen Pregnancy information?

www.cdc.gov
www.cdc.gov/teenpregnancy/

http://www.cdc.gov/vitalsigns/teenpregnancy/
CDC Contraceptive Guidance

CDC Contraceptive Guidance for Health Care Providers

Unintended pregnancy rates remain high in the United States. About 50% of all pregnancies are unintended, with higher proportions among adolescent and young women, women who are racial/ethnic minorities, and women with lower levels of education and income. Unintended pregnancies increase the risk for poor maternal and infant outcomes and in 2002, resulted in $5 billion in direct medical costs in the United States.

About half of unintended pregnancies are among women who were not using contraception (birth control) at the time they became pregnant. The other half are among women who became pregnant despite reported use of contraception. Strategies to prevent unintended pregnancy include removing unnecessary medical barriers to contraceptive use, and helping women and men at risk for unintended pregnancy choose appropriate contraceptive methods and use them correctly and consistently to prevent pregnancy.

In 2010, CDC adapted global guidance from the World Health Organization (WHO) to help health care providers counsel women, men, and couples about contraceptive method choice. The U.S. Medical Eligibility Criteria for Contraceptive Use, 2010 (US MEC), focuses on who can safely use specific methods of contraception, and provides recommendations for the safety of contraceptive methods for women with various medical conditions (such as hypertension and diabetes) and characteristics (such as age, parity, and smoking status).

The U.S. Selected Practice Recommendations for Contraceptive Use, 2013 (US SPR) provides guidance on how contraceptive methods can be used and how to remove unnecessary barriers for patients in accessing and successfully using contraceptive methods. The US SPR includes recommendations on when women can start contraceptive methods, what exams and tests are needed before starting a method, what follow-up is appropriate, and how to address side effects and other problems with contraceptive method use.

How to Use the US MEC and US SPR

Health care providers can use these documents when counseling patients about contraceptive choice, how to use contraceptive methods, and how to manage problems with contraceptive use. CDC has developed several provider tools, including summary charts, a US MEC wheel, and mobile tools for easy access to this guidance.

CDC is committed to keeping this clinical guidance up to date and based on the best available scientific evidence. CDC will continue to work with WHO to identify and assess all new relevant evidence and determine whether changes in the recommendations are warranted. Updates to the guidance will be posted on the Web site or can be received by signing up for E-mail Updates.
Resources

- **US MEC published in CDC’s Morbidity and Mortality Weekly Report (MMWR):**
  http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5904a1.htm?__cid=rr5904a1_w

- **US SPR published in CDC’s Morbidity and Mortality Weekly Report (MMWR):**
  http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6205a1.htm?_cid=rr6205a1_w

**CDC evidence-based family planning guidance documents:**
http://www.cdc.gov/reproductivehealth/UnintendedPregnancy/USMEC.htm

- **CDC Vital Signs:**
  http://www.cdc.gov/vitalsigns/teenpregnancy
Use of trade names and commercial sources is for identification only and does not imply endorsement by the US Department of Health and Human Services.

The findings and conclusions in this presentation have not been formally disseminated by the Centers for Disease Control and Prevention and should not be construed to represent any agency determination or policy.