Disclosures

Nexplanon® trainer for Merck

Learning Objectives

- Review current trends in adolescent pregnancy and contraceptive use
- Summarize the results of the Colorado Family Planning Initiative and the impact on adolescent pregnancy
- Discuss adolescent success rates with various contraceptive methods
- Incorporate evidenced-based contraceptive counseling strategies into practice
- Know where to find resources to guide practice
Adolescence

- Transition period between childhood and adulthood
- Coincides with puberty and onset of sexual maturation
- Increase in Independence
- More access to risk-taking opportunities
- Begins as early as 10
- Ends somewhere between ages 24-26

Teens and Sex

- Average age of first intercourse in the U.S. is 18
- Average % of teens aged 15-19 who have had sex:
  - 44% females
  - 47% males

Teen Pregnancy

- U.S. teen pregnancy, birth and abortion rates reached historic lows in 2011
- Rates per 1,000 women aged 15-19
- www.guttmacher.org
Teen Pregnancy

U.S. Teen Pregnancy Rates in 2011
The highest teen pregnancy rates are found in the South and Southwest.

SOURCE: GUTTMACHER INSTITUTE

Teens and Contraception

Contraception is Key
Teen sexual activity remains steady, while improved contraceptive use is likely driving declines in teen pregnancy.

Teens and Contraception

79% of females and 84% of males used a contraceptive at first intercourse.
Use of contraceptive at first intercourse associated with:
- Older age
- Lower change of having a teen birth

U.S. Teen Contraceptive Use

79% using contraceptives at first sex.
Teens and Contraception

Methods of Contraception ever used among females aged 15-19 who ever had sexual intercourse.

CDC NCHS Data Brief No. 209, July 2015

Unintended Pregnancies

In 2008, only 5% of unintended pregnancies in the U.S. were among women using contraceptive methods consistently.

Game Change in Colorado

www.guttmacher.org
Colorado Family Planning Initiative

Private foundation money
- Awarded to the Colorado Dept. of Public Health and Environment
- Distributed to all 28 Title X agencies across the state

Two objectives:
- Increase patient volume statewide
- Increase use of long-acting reversible contraceptives (LARC methods = IUDs and implants) especially among young women

State family planning dollars in Colorado were doubled.

Colorado Family Planning Initiative

- Provider education and training
- Clinic expansion
- LARC methods easily available beginning in 2009
- Agency clinics located in 37 counties that included 95% of the state's population
Colorado Family Planning Initiative

Number of WIC Infants Served by Month
Colorado Women, Infants and Children (WIC) Program Data, 2007-2013

Colorado Family Planning Initiative

COSTS AVOIDED:
$66.1-$69.6 MILLION

Colorado Department of Public Health and Environment, Taking the Unintended Out of Pregnancy: Colorado’s Success with Long-Acting Reversible Contraception, January 2017

Contraceptive CHOICE Project

THE
CONTRACEPTIVE
CHOICE
PROJECT

Washington University in St. Louis
Primary Objectives

• To increase the acceptance and use of long-acting reversible contraceptive (LARC) methods among women of childbearing age

• To measure acceptability, satisfaction, side-effects, and rates of continuation across a variety of reversible contraceptive methods, including long-acting reversible methods.

Primary Intervention

• Reframe the counseling discussion to start with the most effective methods first.

Baseline chosen method

<table>
<thead>
<tr>
<th>Method</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNG-IUS</td>
<td>46.0</td>
</tr>
<tr>
<td>Copper IUD</td>
<td>11.9</td>
</tr>
<tr>
<td>Implant</td>
<td>16.9</td>
</tr>
<tr>
<td>DMPA</td>
<td>6.9</td>
</tr>
<tr>
<td>Pills</td>
<td>9.4</td>
</tr>
<tr>
<td>Ring</td>
<td>7.0</td>
</tr>
<tr>
<td>Patch</td>
<td>1.8</td>
</tr>
<tr>
<td>Other</td>
<td>&lt;1.0</td>
</tr>
</tbody>
</table>

75%
Contraceptive CHOICE Project

Choice of LARCs by adolescents

Contraceptive CHOICE Project

12-month continuation rates

<table>
<thead>
<tr>
<th>Method</th>
<th>Continuation Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNG-IUS</td>
<td>87.5</td>
</tr>
<tr>
<td>Copper IUD</td>
<td>84.1</td>
</tr>
<tr>
<td>Implant</td>
<td>83.3</td>
</tr>
<tr>
<td>Any LARC</td>
<td>86.2</td>
</tr>
<tr>
<td>DMPA</td>
<td>56.2</td>
</tr>
<tr>
<td>OCPs</td>
<td>55.0</td>
</tr>
<tr>
<td>Ring</td>
<td>54.2</td>
</tr>
<tr>
<td>Patch</td>
<td>49.3</td>
</tr>
<tr>
<td>Non-LARC</td>
<td>54.7</td>
</tr>
</tbody>
</table>

Contraceptive CHOICE Project

12-month continuation rates: adolescents compared to older women
Contraceptive CHOICE Project

Unintended pregnancy by contraceptive method

Contraceptive CHOICE Project

Method failure by age

Contraceptive CHOICE Project

Repeat abortions 2006 - 2010
Contraceptive CHOICE Project

Main Findings from CHOICE

• LARC methods were associated with higher continuation & satisfaction than shorter-acting methods regardless of age
• LARC methods associated with lower rates of unintended pregnancy
• Increasing LARC use can decrease unintended pregnancy in the population

Contraceptive CHOICE Project

3 Key ingredients to success

• Education regarding all methods, especially LARC
  – Reframe the conversation to start with the most effective methods first
• Access to providers who will offer & provide LARC
  – Dispel myths and increase the practice of evidence-based medicine
• Affordable contraception
  – IOA recommendation, Affordable Care Act, Medicaid Expansion

Tiered Contraceptive Counseling

Birth Control Method Effectiveness
How many women out of 100 get pregnant in 1 year with typical use?

Most effective: IUD, Implant, Sterilization
(No more 1 woman)

Pills, OCP (4 women)

Condom (15 women)

Least effective: No contraception (82 women)
Shared Decision Making

“a process in which clinicians and patients work together to make decisions and select tests, treatments and care plans based on clinical evidence that balances risks and expected outcomes with patient preferences and values.”

www.healthit.gov

Shared Decision Making

1. Invite the patient to participate
1. Present options
1. Provide information on benefits and risks
1. Assist patients in evaluating options based on their goals and concerns
1. Facilitate deliberation and decision making
1. Assist patients to follow through on the decision

www.healthit.gov

Iowa Confidentiality Laws

• Minors in Iowa can give written consent to receive contraceptive services, screening or treatment for HIV infection and other STDs with the knowledge or consent of parents (141A.7)

• It is important to remember that an insurance EOB may be sent to a minor’s parent or guardian for services billed.
Tiered Contraceptive Counseling

Nexplanon® (etonogestrel) implant

Prevents pregnancy by preventing ovulation and thickening the cervical mucus.

Providers must complete a certification training course to place and remove the device per the FDA.
Nexplanon® (etonogestrel) implant

- **Frequent or prolonged bleeding** is common during first 3 months.
- Then:
  1 out of 5: amenorrhea
  1 out of 5: prolonged or frequent bleeding

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Drug interactions

Drugs or herbal products that induce enzymes, including CYP3A4, that metabolize progesterone may decrease the plasma concentrations of progesterone, and may decrease the effectiveness of NEXPLANON® (etonogestrel implant). In women on long-term treatment with hepatic enzyme-inducing drugs, it is recommended to remove the implant and to advise a contraceptive method that is unaffected by the interacting drug. Some of these drugs or herbal products that induce enzymes, including CYP3A4, include:

<table>
<thead>
<tr>
<th>Drug Class</th>
<th>Example Drugs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antibiotics</td>
<td>Ciprofloxacin</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>Fluoxetine</td>
</tr>
<tr>
<td>Anticonvulsants</td>
<td>Lamotrigine</td>
</tr>
<tr>
<td>Antipsychotics</td>
<td>Clozapine</td>
</tr>
<tr>
<td>Antibiotics</td>
<td>Ketoprofen</td>
</tr>
<tr>
<td>Anticonvulsants</td>
<td>Topiramate</td>
</tr>
</tbody>
</table>

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Pharmacokinetic profile of NEXPLANON® (etonogestrel implant)
ParaGard® (copper) IUD

Copper ions make the sperm unable to swim and they die. Effective for 10 years.

Important Counseling:
Periods are likely to be heavier and crampier than your normal period.

Mirena® (levonorgestrel) IUD

Progestin hormone thickens the mucous of the cervix preventing sperm from entering the uterus. (It does not suppress ovulation.) Approved for 5 years use.
Mirena® (levonorgestrel) IUD

Important Counseling:
Frequent bleeding or spotting is common in the first three months, then periods become regular and light and about half of the time, they go away completely.

Skyla™ (levonorgestrel) IUD

Smaller than Mirena. Approved for 3 years use.

Mirena compared to Skyla
Kyleena™ (levonorgestrel) IUD

Same size as Skyla with more hormone. Approved for 5 years use.

---

Mirena vs. Kyleena vs. Skyla

<table>
<thead>
<tr>
<th></th>
<th>Mirena</th>
<th>Kyleena</th>
<th>Skyla</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>32 x 32 mm</td>
<td>28 x 30 mm</td>
<td>28 x 30 mm</td>
</tr>
<tr>
<td>Levonorgestrel dose</td>
<td>52 mg</td>
<td>19.5 mg</td>
<td>13.5 mg</td>
</tr>
<tr>
<td>String color</td>
<td>black</td>
<td>blue</td>
<td>black</td>
</tr>
<tr>
<td>Approved Duration</td>
<td>5 years</td>
<td>5 years</td>
<td>3 years</td>
</tr>
<tr>
<td>Min. uterine depth (cm)</td>
<td>16 cm</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Max. uterine depth (cm)</td>
<td>20 cm</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

---

Liletta® (levonorgestrel) IUD
Liletta® (levonorgestrel) IUD

**LILETTA product specifications**

<table>
<thead>
<tr>
<th>Component</th>
<th>Liletta</th>
<th>Mirena</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>32 mm x 32 mm</td>
<td>32 mm x 32 mm</td>
</tr>
<tr>
<td>Levonorgestrel dose</td>
<td>52 mg</td>
<td>52 mg</td>
</tr>
<tr>
<td>String color</td>
<td>blue</td>
<td>black</td>
</tr>
<tr>
<td>Approved length of use</td>
<td>3 years*</td>
<td>5 years</td>
</tr>
<tr>
<td>Minimum uterine depth (per PE)</td>
<td>5.5 cm</td>
<td>6 cm</td>
</tr>
<tr>
<td>Maximum uterine depth (per PE)</td>
<td>≥9 cm</td>
<td>10 cm</td>
</tr>
</tbody>
</table>

Liletta compared to Mirena

Liletta® compared to Mirena®
Tiered Contraceptive Counseling

Acne and Contraception

- Up to 85% of adolescents will be affected by acne
- Combined pills (COCs) have proven benefit
- Any COC should help
  - Suppress LH = decreased testosterone production
  - Increase SHBG = decreased free testosterone
  - Decreased sebum = improved acne
- Newer progestins may have more anti-androgenic properties

Drospirenone > Norgestimate/Desogestrel > Levonorgestrel/Norethindrone

Acne and Contraception

- Levonorgestrel IUD and Implant users
  - Greater acne symptoms compared to copper IUD users
- It is important to counsel patients on impact of switching methods
  - May require other acne treatments once off COC
Obesity and Contraception

Four questions about body weight and contraception

• Will the method cause weight gain?
• Is the failure rate higher in obese adolescents?
• Are there medical risks attributable to the method in obese adolescents (compared average weight)?
• What is the US-MEC category and why?
Obesity and Contraception

<table>
<thead>
<tr>
<th>Method</th>
<th>COC</th>
<th>Patch</th>
<th>IM/EM</th>
<th>Implant</th>
<th>IUD</th>
<th>Tubal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight gain?</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Failure in obese women?</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Medical risk in obese women?</td>
<td>Increase DVT risk</td>
<td>No studies</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes*</td>
</tr>
<tr>
<td>Obesity</td>
<td>2</td>
<td>2</td>
<td>1/2**</td>
<td>1</td>
<td>1</td>
<td>Not rated</td>
</tr>
</tbody>
</table>

*Mainly in obese adolescents and those who experience a >5% body weight increase within 6 months of IM/EM initiation.
**If weight is >90Kg (198 lbs), increase of 2-4 failures/100 users/year.
***<18 years of age and a >30 BMI

Obesity and Contraception

There is only one birth control method that has shown to cause weight gain in women: Depo-Provera. This is most common among obese adolescents and those who gain >5% of body weight after the first dose.

There is only one birth control method that has been shown to have a potential decrease in efficacy in women who are overweight (198 lbs): Ortho Evra patch.

Obesity is rated by the USMEC with either a 1 or a 2 rating for all birth control methods. This means there is no restriction on the advantages generally outweigh theoretical or proven risks for obese women with no other risk factors.

A woman should not be denied any contraception method based on her body weight. Providers are encouraged to explain the risks and benefits of choosing a particular method and allow the client to make an informed decision that best suits her needs and preferences.

Providers are encouraged to explain the risks and benefits of choosing a particular method and allow the client to make an informed decision that best suits her needs and preferences.

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

U.S. Selected Practice Recommendations for Contraceptive Use, 2016
All contraceptive methods (except IUDs) should be started the same day, even if it is uncertain whether the woman is pregnant.

For contraceptive methods other than IUDs, the benefits of starting to use a contraceptive method likely exceed any risk, even in situations in which the health-care provider is uncertain whether the woman is pregnant. Therefore, the health-care provider can consider having patients start using contraceptive methods other than IUDs at any time, with a follow-up pregnancy test in 2–4 weeks.

It is not necessary to have GC and CT results available prior to an IUD insertion.

If a woman has not been screened for STDs according to STD screening guidelines, screening can be performed at the time of IUD insertion and the insertion should not be delayed.

Delaying Depo-Provera due to uncertainty about pregnancy results in more pregnancies.

Studies found that use of another contraceptive method until DMPA could be initiated (bridging option) did not help women initiate DMPA and was associated with more unintended pregnancies than immediate receipt of DMPA.
Repeat DMPA injections can be given up to 2 weeks late without the need for back-up. The repeat DMPA injection can be given up to 2 weeks late (15 weeks 0 days from the last injection) without requiring additional contraceptive protection.

A blood-pressure check is not a requirement for low-risk pills users Few women develop HTN after initiating pills. No routine follow-up visit is required.

Dispensing more pills/patches/rings results in higher continuation rates and decreased risk for unplanned pregnancies. The more pill packs, rings and patches given, the higher the continuation rates. Restricting the number of packs distributed or prescribed can result in unwanted discontinuation of the method and increased risk for pregnancy.
Removing barriers help women to be successful in preventing unplanned pregnancy.

Several barriers may exist, including unnecessary screening examinations and tests before starting a method, inability to receive the contraceptive on the same day as the visit (e.g., waiting for test results that might not be needed or waiting until the woman’s next period to start use) and difficulty obtaining continued contraceptive supplies (e.g., restrictions on number of pill packs dispensed at one time.)

Centers for Disease Control and Prevention, U.S. Selected Practice Recommendations for Contraceptive Use, 2013; MMWR 2013;62

Bedsider.org

Summary

• Adolescents deserve to know about all contraceptive options available, how effective they are, and what they should expect.
• They are more likely to succeed in preventing unplanned pregnancy with a LARC, but LARC is not the best method for every adolescent.
• Evidence supports shared decision making and a tiered counseling approach when providing contraceptive counseling.