New Developments in Contraception

Association of Reproductive Health Professionals
www.arhp.org
Acknowledgement

- This session is made possible through educational grants from Agile Therapeutics, Teva Pharmaceuticals, and Bayer HealthCare Pharmaceuticals.
## Disclosures

<table>
<thead>
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<th>Affiliations</th>
<th>Disclosure</th>
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<tbody>
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Learning Objectives

• Explain the need for new contraceptive methods in the US to improve reproductive health and prevent unintended pregnancy

• Examine contraceptive technologies in development which will offer new options for patients in the US

• Describe how new methods will meet patient needs to reduce unintended pregnancy in the US
Unintended Pregnancy in the US

1 YEAR: 6.7 MILLION PREGNANCIES

Intended: 51%

Unintended 49%

- Unintended births: 23%
- Elective abortions: 21%
- Fetal losses: 5%

Contraceptive Use in the US

% of US women who practice contraception

- Sterilization: 37.0%
- IUD & Implant: 6.6%
- Injectable: 3.2%
- Patch & Ring: 3.5%
- OC: 28.0%
- Male condom: 16.1%
- Male Non-hormonal: 1.5%
- Withdrawal: 5.2%

More Effective
Effective
Less Effective

Comparing Typical Effectiveness of Contraceptive Methods

More effective
< 1 pregnancy/100 women in 1 year

Implant  Vasectomy  Female Sterilization  IUC

Injectable  Pills  Patch  Ring  Diaphragm

Less effective
>17 pregnancies/100 women in 1 year

Male Condoms  Female Condoms  Sponge  Withdrawal

Spermicides  Fertility Awareness-Based Methods

The Need for New Developments in Contraception

3.2 million women in the US have an unmet need for contraception

There is a need for…

| NEW HIGHLY EFFECTIVE AND EASY TO USE METHODS | GREATER VARIETY OF METHODS | BETTER EDUCATION ABOUT CORRECT AND CONSISTENT USE |

Contraception Population will Grow

Contraceptive Population (women aged 15-44)
Growth Over Time

Total Females Aged 15-44 (000)

% growth

Total Females Age 15-44 (000)

## Technologies in the Pipeline for US Patients

<table>
<thead>
<tr>
<th>Development projects (Phase 3)</th>
<th>Post-development</th>
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<tbody>
<tr>
<td><strong>Available beyond 2014</strong></td>
<td><strong>Available 2013/2014</strong></td>
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<tr>
<td>Hormonal</td>
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<tr>
<td>LNG 20</td>
<td>LNG12/16</td>
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<tr>
<td>Nestorone/EE vaginal ring</td>
<td>Cyclofem</td>
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<tr>
<td>FC patch low</td>
<td>Twirla</td>
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<tr>
<td>Non-hormonal</td>
<td></td>
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<tr>
<td>SILCS Diaphragm</td>
<td></td>
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<tr>
<td>PATH female condom</td>
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Soon-to-be-Available New Method: LNG-IUS12/16

<table>
<thead>
<tr>
<th>LNG-IUS12/16</th>
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<tbody>
<tr>
<td><em>Developer: Bayer/Schering</em></td>
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<tr>
<td>• LNG ↓ Mirena (12 mcg and 16 mcg)</td>
</tr>
<tr>
<td>• Early studies:</td>
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<tr>
<td>• effective contraception</td>
</tr>
<tr>
<td>• well tolerated</td>
</tr>
<tr>
<td>• NDA filed Dec ‘11</td>
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<tr>
<td>• Awaiting FDA approval</td>
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## LNG-IUS12 and LNG-IUS16 Phase 3 Study Results

<table>
<thead>
<tr>
<th></th>
<th>LNG-IUS12</th>
<th>LNG-IUS16</th>
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<tbody>
<tr>
<td><strong>Unadjusted PI</strong></td>
<td>0.33</td>
<td>0.31</td>
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<tr>
<td><strong>Cumulative failure rates</strong></td>
<td>0.9%</td>
<td>1.0%</td>
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<tr>
<td><strong>SAE</strong></td>
<td></td>
<td></td>
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<tr>
<td>PID</td>
<td>2 cases</td>
<td>4 cases</td>
</tr>
<tr>
<td>None observed</td>
<td></td>
<td>1 partial uterine perforation</td>
</tr>
<tr>
<td>3 ectopics</td>
<td></td>
<td>7 ectopics</td>
</tr>
<tr>
<td><strong>Cumulative risk of expulsion</strong></td>
<td>4.56%</td>
<td>3.58%</td>
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Open Discussion:
Provide one reason the LNG-IUS 12/16 might be a great option for Anna.
Future New Method: LNG20

<table>
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<tr>
<th>LNG20</th>
<th>Developer: Medicines 360</th>
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<tr>
<td>• 20mcg/day LNG compared to Mirena (52mg) over 5 years</td>
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<tr>
<td>• Purpose:</td>
<td></td>
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<tr>
<td>• ↑ use from 5 to 7 years</td>
<td></td>
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<tr>
<td>• ↓ cost</td>
<td></td>
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<tr>
<td>• Study completion ~Dec. ‘18</td>
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Future New Method: Cyclofem

Cyclofem

Developer: Concept Foundation

• Monthly injectable
• Seeking FDA approval/reintroduction to US market

www.conceptfoundation.org/hormonal-contraception.php
Future New Method: Nestorone/EE 1 Year Ring (CVR)

Nestorone/Ethiny1 Estradiol 1-Year Ring (CVR)
Developer: Population Council

- Releases 150 mcg Nestorone & 15 mcg ethinyl estradiol/day over 3-week period
- Used like NuvaRing
- Lasts 13 cycles
- Awaiting FDA approval

8.4 mm (3/8”) in cross section
58 mm (2 1/14”) in diameter
Nestorone/EE 1-Year Ring (CVR) Trial Results

Percent of Participants (terminal survey), n=861

- Satisfied or very satisfied with CVR
- CVR easy to use
- Recommended CVR to family/friends
- Would pay to use CVR in future
- Believes CVR is better than other contraceptives

Spieler J. Feb ‘12.
Soon-to-be-Available New Method: AG200-15

**AG200-15 (Twirla™)**

*Developer: Agile Therapeutics*

- Low-dose, once-weekly patch
- EE + LNG
- Minimizes seepage of adhesive around edge of patch ("cold flow")
- ↓ chance of residue on skin
- NDA submitted
- Decision expected Q1 2013
Adverse Event Profile: AG200-15 Compared to Ortho Evra

AG200-15 showed lower levels of hormone-related side effects

Comparison of EE PK Profile: AG200-15, Ortho Evra, & an OC

AG200-15 has ~1/2 the EE exposure compared to Ortho Evra

Why might Twirla be a good choice for Jennifer?

A. Half of the progestin exposure compared to Ortho Evra
B. Half of the estrogen exposure compared to Ortho Evra
C. Less seepage of adhesive around the patch compared to Ortho Evra
D. Improved efficacy over Ortho Evra
Future New Method: BAY86-5016

BAY86-5016 (FC Patch low)
Developer: Bayer HealthCare Pharmaceuticals

- Contains EE & gestodene
- Ongoing Phase III trial:
  - patterns of bleeding, effectiveness, general safety, & acceptability
Samples of Pills in Development

**Quartette™ [DR-103] (Teva)**
- OC continuous regimen of LNG 0.15mg / EE 20ug x42d, 25ug x21d, 30ug x21d
- Less disruptive, unscheduled bleeding

**Yaz Flex (Bayer)**
- OC extended regimens w/ folate of Drosperinone 3mg / EE 20ug

**Nomac/E2 (Merck)**
- OC containing nomagestrel acetate 2.5mg, 17-ß estradiol 1.5mg

**Pill-Plus / ARC (BioSante & Pantarhei)**
- OC w/ estrogen, progestin, & androgen
- Shows ↑ in frequency of sexual activity, arousal, & responsiveness to partner
Future New Method: SILCS Diaphragm

Developers: PATH and SILCS, Inc.

- Cervical barrier device
- One-size-fits most
- Developed w/ input from women and men in multiple countries
- Regulatory applications in Europe & US
Future New Method: PATH Women’s Condom

**Women’s Condom**

*Developer: PATH*

- Polyurethane condom pouch
- Foam dots improve adherence to vaginal walls
- Soft outer ring
- Dissolving capsule
New Ideas Still Needed

- New Delivery Mechanisms
- Vaginal Spermicide
- Male Methods
- Non-surgical Methods
- Limited Side Effects
- Improved Cost, Acceptability & Delivery
- Biodegradable Progest-n-Only Implants
- Multi-purpose/Dual Protection for STIs
- Lengthen Duration of Injectables & Implants
“We need to revitalize interest in the development of new and innovative contraceptive methods that will meet the needs of today’s and tomorrow’s couples”
Resources

Method Match
www.arhp.org/methodmatch

US Clinical Trials Database

ClinicalTrials.gov

ClinicalTrials.gov is a registry and results database of federally and privately supported clinical trials conducted in the United States and around the world. ClinicalTrials.gov gives you information about a trial's purpose, who may participate, locations, and phone numbers for more details. This information should be used in conjunction with advice from health care professionals. Read more...

- Search for Clinical Trials
- Investigator Instructions
- Background Information

Learn about clinical trials and how to use ClinicalTrials.gov, or access other consumer health information from the US National Institutes of Health.
Related Information

• Slide set available in CORE
  www.arhp.org/core

• CE webinars
  ▪ December 13 @12:00pm ET with Laneta Dorflinger
  ▪ January 16 @ 12:00pm ET with Grace Shih

• Clinical Minute activities
  www.arhp.org/clinicalminute