Contraceptive Overview with Clinical Cases

Catherine Chappell, MD MSc
University of Pittsburgh
CAT Sister

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What is your favorite contraceptive method?

1. Sterilization 14%
2. IUD 14%
3. Implant 14%
4. DMPA 14%
5. Oral Contraceptive Pills 14%
6. Condoms 14%
7. Withdrawal method 14%
Which contraceptive method works the best?

1. Sterilization
2. IUD
3. Implant
4. DMPA
5. Oral Contraceptive Pills
6. Condoms
7. Withdrawal method
Contraceptive Failure

- Defined as the proportion of women initiating use of a method who become pregnant during their first year of use

- The following data represent U.S. based studies/statistics
**Typical Vs. Perfect Use**

% of Women w/ Unintended Pregnancy within 1st Year of Use

- **Combined Pill (Ortho-Evra):**
  - Typical use: 8%
  - Perfect use: 0.3%

- **Patch (NuvaRing):**
  - Typical use: 8%
  - Perfect use: 0.3%

- **Ring (Depo-Provera):**
  - Typical use: 8%
  - Perfect use: 0.3%

- **Injectable (ParaGard, Copper T):**
  - Typical use: 3%
  - Perfect use: 0.8%

- **Implant (Norplant):**
  - Typical use: 0.05%
  - Perfect use: 0.6%

- **Female Sterilization:**
  - Typical use: 0.5%
  - Perfect use: 0.5%

*Estimates Only

Typical Effectiveness of Contraceptive Methods

**Most effective**
- < 1 pregnancy/100 women in 1 year

**Least effective**
- >17 pregnancies/100 women in 1 year

Gloria is a 35 yo G5P5 who presents for HOPE screening. She is done with child bearing. Which type of contraceptive would you recommend?

1. DMPA
2. Oral Contraceptive Pills
3. Implant
4. Withdrawal
5. Sterilization
6. Condoms
Male Sterilization

Standard of care = no-scalpel vasectomy (NSV)

- Small (few mms) opening is made in the scrotal sac skin to deliver vas deferens
- Ligate/cauterize
- No scalpel
- No sutures

Female Sterilization: Surgical Tubal Occlusion

- Ligating (using suture)
- Blocking (clips or rings)
- Cauterizing

Sterilization Regret

- Women under 30: 20%
- Women over 30: 6%

What would be another good option for Gloria?

Intrauterine Device (IUD)
Copper-T IUD

- Brand name: ParaGard®
- Copper ions
- Approved for 12 years of use
- Can be used as emergency contraceptive

How do IUDs primarily prevent pregnancy?

1. Preventing ovulation
2. Preventing Ovulation
3. Scarring fallopian tubes
4. Voodoo
5. None of the above
Mechanism of Action: Copper T IUD

- Primary mechanism is prevention of fertilization
- Reduce motility and viability of sperm
- Inhibit development of ova
- Also inhibits implantation and is effective as emergency contraception
- Does not interfere with an implanted pregnancy

Extremely Effective

Intrauterine Contraception and Fertility

~2000 women enrolled in case-control study

IUD use not associated with infertility (OR=0.9)

Chlamydia associated with infertility (OR=2.4)

Results confirmed by similar studies

How soon after removing an IUD can a woman get pregnant?

1. Immediately
2. 7 days
3. 1 month
4. 3 months
5. 6 months
What is a contraindication to IUD insertion?

1. Age <18 years old
2. History of PID
3. HIV infection
4. Active cervicitis
5. Nulliparity
Dispelling Myths about Intrauterine Contraception

- **Can** be used:
  - in women with multiple partners
  - in women with history of STDs or PID
  - in nulliparous women
  - in teens
  - immediately postpartum
  - immediately post-abortion
  - in women with past ectopic pregnancy

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Gloria elects to have an IUD placed. You tell her that the risk of insertion are:

1. Pelvic Inflammatory Disease
2. Uterine Perforation
3. Pain
4. Bleeding
5. All of the above
The long term risks of the IUD do NOT include:

• Ectopic Pregnancy
• Contraceptive failure
• Pelvic inflammatory disease
• Increased menstrual bleeding
• Increased menstrual cramping
• IUD expulsion
IUDs Do Not Cause PID

• PID incidence for IUC users is similar to that of the general population
• Risk is increased only during the first month after insertion
• Preexisting STI at time of insertion, not the IUCD itself, increases risk

Precious is a 16 yo who presents for MTN 034 screening. What is your favorite contraceptive method for teenagers?

1. Condoms
2. Abstinence
3. Implant
4. IUD
5. Pills
6. DMPA
Implant Systems

6-Rod Norplant

2-Rod Jadelle

1-Rod Implanon

216 mg levonorgestrel
7 years

75 mg levonorgestrel
5 years

68 mg etonogestrel
3 years

Extremely Effective
Precious asks how long it takes to put in an implant. You tell her:

1. Less than 5 mins (25%)
2. 10-15 mins (25%)
3. 15-30 mins (25%)
4. 30-45 mins (25%)
Short Insertion and Removal Time

Insertion

< 1 minute

Removal

< 3 minutes

When can an implant be inserted?

1. Only during menses
2. Anytime with a negative pregnancy test
3. Anytime with a negative pregnancy test AND no unprotected intercourse in the last 2 weeks
4. Full moon
Anytime during menstrual cycle when pregnancy can be excluded (confirmed by negative pregnancy test and no report of unprotected sex in past two weeks)

What is the most common side effect of the implant?

1. Headache
2. Bloating
3. Weight gain
4. Irregular bleeding
5. Pregnancy
6. Expulsion
7. Infection
Side Effects

• Mild adverse events are common
  ▪ Nearly all implant users will experience one
• Serious adverse events are rare
• Counseling prior to insertion is important
  ▪ Impacts satisfaction and continuation rates
  ▪ Reassurance that these adverse events rarely represent a risk to client’s health
Bleeding is the MOST Common AE

- Unpredictable level of estradiol among implant users
- Most common in the first 6-9 months
- Typically decrease with time
- But pattern is not predictable
- Overall most women tolerate bleeding changes
- 86% of women had changes
- 69% said they were not or only slightly bothered by changes
- Amenorrhea among LNG implant users is lower than among injectable users (about 11%)

Implanon vs. Jadelle Bleeding Patterns

- Amenorrhea among LNG implant users is lower than among injectable users (about 11%).
- Use of ENG implants may be associated with fewer bleeding or spotting episodes and significantly more amenorrhea (22% in one study) than LNG implant users.
- Despite bleeding irregularities, hemoglobin levels rise with implant use.

Precious presents 3 months after getting the implant with irregular bleeding. How can you help her?

1. Removing the implant
2. Prescribing ethinyl estradiol
3. Prescribing NSAIDs
4. Prescribing combination oral contraceptives
5. Any of the above
Management of Bleeding

- Few data available
- Considerations
  - Ethinyl estradiol
  - NSAIDs
  - Combination OCs
  - Watchful waiting

Meirik O. *Hum Reproduct Update*. 2003
Weisberg E. *Hum Reprod*. 2006
Nothing helps and Precious wants the implant removed. How big is the incision for removal?

1. 0.5 mm
2. 2-3 mm
3. 5 mm
4. 1 cm
5. No incision is necessary
Have you removed an implant?

1. Yes
2. No

50%

50%
In ASPIRE, what contraceptive method would participants use if they actually wanted to get pregnant?

1. DMPA
2. IUD
3. Implant
4. Oral Contraceptive Pills
Progestin-Only Oral Contraceptives

Called the “mini-pill”
Two formulations: norethindrone & norgestrel
No placebo week
Timing of pill-taking is crucial

The biggest risk for low dose pill failure happens when a woman...

1. Takes a five day course of amoxicillin while on the pill
2. Misses a dose at the end of the pack
3. Starts a new pack one day late
4. Changes the timing of her pill use from the morning for the first 2 weeks to the evening for the second two weeks of the pack
In three studies of COC use, the average weight gain associated with low dose COC use was...

1. 8 kg
2. 5 kg
3. 2 kg
4. No weight gain
5. 3 kg weight loss
Side Effects: Hormonal Contraception

Progestin-Related
- Bloating
- Anxiety
- Irritability
- Depression
- Menstrual irregularities
- Reduced libido

Estrogen-Related
- Breast tenderness
- Nausea
- Vomiting
- Headaches
- Elevated blood pressure (rare)
A participant is interested in using combined oral contraceptive pills. When reviewing her medical history, which of the following would be a contraindication?

1. Pelvic Inflammatory Disease
2. Hypotension
3. Severe migraines
4. History of deep vein thrombosis

Bar graph showing: 25% for each option.
Contraindications: Combined Hormonal Contraception

- Clotting disorders
- History of deep vein thrombosis or pulmonary embolism
- Migraine with aura or focal neurological deficit
- Uncontrolled hypertension

Participant presents for HOPE screening. She is getting married in the next few months and would like to fall pregnant in 1 years time. Which contraceptive method has the slowest time fertility return?

1. Implant
2. Oral contraceptive pills
3. IUD
4. DMPA
Injectable

- Depot Medroxyprogesterone Acetate (DMPA)
- Brand name: Depo-Provera®
- Intramuscular or subcutaneous injection every 3 months

Ovulation Return

- MPA can be detected in the serum for as long as **nine months** after a single injection of 150 mg
- Return to ovulation
  - DMPA = 3 to 10 months
  - NET-EN = 2 to 6 months
  - COC = 1-3 months
  - Implant = 3 weeks to 3 months
  - IUD = Immediate

Mishell D. J Repro Med. 1996
She has always used DMPA. All her friends use DMPA. And she wants to continue to use DMPA. You:

1. Enter answer text...
Reproductive Health Plan

<table>
<thead>
<tr>
<th>?</th>
<th>How important is it to you to avoid pregnancy now?</th>
</tr>
</thead>
<tbody>
<tr>
<td>?</td>
<td>What would you do if you became pregnant now?</td>
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<tr>
<td>?</td>
<td>What is your desired family size?</td>
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<td>?</td>
<td>What is your intended timing for pregnancy?</td>
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<td>?</td>
<td>Are there health issues that you need to address before you become pregnant?</td>
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Take-Home Points

- Myths can restrict contraceptive choices
- Restrictions have consequences
- Information allows for informed decisions
- Reproductive plan encourages holistic approach
Contraceptive Options

**Extremely effective**
- Male/Female Sterilization
- IUD
- Implants

**Very effective**
- Effective >99% of the time
- Pills
- Injectables

**Moderately effective**
- Effective >92% of the time
- Male/Female Condom
- Withdrawal
- Sponge
- Diaphragm

**Effective**
- Effective up to 75% of the time
- Fertility Awareness
- Cervical cap
- Spermicide