CONTRACEPTION

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OBJECTIVES

• At the conclusion of this session, the student will be able to:
  • describe the physiologic basis by which contraceptive methods prevent pregnancy
  • Compare the effectiveness of different forms of contraception
  • describe the options for emergency contraception
UNINTENDED PREGNANCY IN US--2001

- Pregnancies Unwanted or Mistimed
- Pregnancies Intended

Finer and Zolna, 2014; AJPH;104: S43
UNINTENDED PREGNANCY IN US—2008

- 49% Pregnancies Unwanted or Mistimed
- 51% Pregnancies Intended

Finer and Zolna, 2014; AJPH;104: S43
Outcomes of Unintended Pregnancies, 2006

57 Birth
43 Induced Abortion

National data from NSFG, National survey of abortion patients, NSHC, US Census Bureau
% UNINTENDED PREGNANCIES by age, 2006 data from NSFG

Finer and Zolna. Contraception 2011, 84:478
Everything you Always Wanted to Know about Contraception....But were Afraid to Ask
MECHANISMS OF ACTION

- BARRIER METHODS
- SPERMICIDES
- IUDs
- HORMONAL METHODS
  - Inhibition of Ovulation
  - Effect on Cervical Mucus
CONTRACEPTIVE OPTIONS

- BARRIER
  - Condoms--Male, Female
  - Vaginal Ring
  - Diaphragm
  - Cervical Cap
  - Sponge

- HORMONAL
  - COC, POP, CHC
  - Patch, Vaginal Ring
  - Implant
  - Injectable
  - IUD (IUC, IUS)
CONTRACEPTIVE OPTIONS

• OTHER
  • Copper IUD
  • Coitus Interruptus
  • Fertility Awareness/NFP
  • Lactational amenorrhea
  • Emergency contraception

• STERILIZATION
  • Female
    • Laparoscopic interval, PP, minilaparotomy, hysteroscopic
  • Male
    • Vasectomy
LONG-ACTING REVERSIBLE CONTRACEPTION

- LARC
  - Subdermal Implant
  - IUDs
    - Copper
      - 10 years
    - Hormonal
      - 5 years
      - 3 years
CHARACTERISTICS OF CONTRACEPTIVE METHODS

• Duration of action
• Efficacy
• Continuation
• Compliance, adherence, successful use
• Mechanism of action
• Cautions/Risks/Safety/Perceived safety
• Side Effects
• Advantages/Non-contraceptive benefits

• Costs/Cost-effectiveness
• Prevention of STIs
• Ease of use
• Impact on menstrual cycle
• Contraceptive choices
• Personal considerations/Life events
• Partners views
CONTRACEPTIVE EFFICACY: how well will it work?

• Efficacy: How well a contraceptive method works in clinical trials ("Perfect use" or "Lowest expected" failure rates)

• Effectiveness: How well a contraceptive method works in actual practice ("Typical use")

• Terms often used interchangeably

• Pearl Index = # pregnancies/100 woman years of exposure

• Life Table analysis calculates a failure rate for any specific length of exposure
## CONTRACEPTIVE EFFICACY

Failure rate in typical use vs Perfect use

<table>
<thead>
<tr>
<th>Method</th>
<th>% of Women Experiencing an Unintended Pregnancy within the First Year of Use</th>
<th>% of Women Continuing Use at One Year&lt;sup&gt;3&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Typical Use&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Perfect Use&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td>No method&lt;sup&gt;4&lt;/sup&gt;</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>Spermicides&lt;sup&gt;5&lt;/sup&gt;</td>
<td>28</td>
<td>18</td>
</tr>
<tr>
<td>Fertility awareness-based methods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Days method&lt;sup&gt;6&lt;/sup&gt;</td>
<td>24</td>
<td>5</td>
</tr>
<tr>
<td>TwoDay method&lt;sup&gt;6&lt;/sup&gt;</td>
<td>24</td>
<td>5</td>
</tr>
<tr>
<td>Ovulation method&lt;sup&gt;6&lt;/sup&gt;</td>
<td>24</td>
<td>5</td>
</tr>
<tr>
<td>Symptothermal method&lt;sup&gt;6&lt;/sup&gt;</td>
<td>24</td>
<td>5</td>
</tr>
<tr>
<td>Withdrawal</td>
<td>22</td>
<td>4</td>
</tr>
<tr>
<td>Sponge</td>
<td>24</td>
<td>20</td>
</tr>
<tr>
<td>Parous women</td>
<td>24</td>
<td>20</td>
</tr>
<tr>
<td>Nulliparous women</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Condom&lt;sup&gt;7&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female (fc)</td>
<td>21</td>
<td>5</td>
</tr>
<tr>
<td>Male</td>
<td>18</td>
<td>2</td>
</tr>
<tr>
<td>Diaphragm&lt;sup&gt;8&lt;/sup&gt;</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Combined pill and progesterone-only pill</td>
<td>9</td>
<td>0.3</td>
</tr>
<tr>
<td>Evra patch</td>
<td>9</td>
<td>0.3</td>
</tr>
<tr>
<td>NuvaRing</td>
<td>9</td>
<td>0.3</td>
</tr>
<tr>
<td>Depo-Provera</td>
<td>6</td>
<td>0.2</td>
</tr>
<tr>
<td>Intrauterine contraceptives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ParaGard (copper T)</td>
<td>0.8</td>
<td>0.6</td>
</tr>
<tr>
<td>Mirena (LNG)</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Implanon</td>
<td>0.05</td>
<td>0.05</td>
</tr>
<tr>
<td>Female sterilization</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Male sterilization</td>
<td>0.15</td>
<td>0.10</td>
</tr>
</tbody>
</table>

TRUSSELL in CONTRACEPTIVE TECHNOLOGY, 20 ed. 2011
Effectiveness of Contraceptive Methods

More Effective

Less than 1 pregnancy per 100 women in a year

- Implant: 0.05%*
- Intrauterine Device (IUD): LNG - 0.2% , Copper T - 0.8%
- Male (Vasectomy): 0.15%
- Female (Abdominal, Laparoscopic, Hysteroscopic): 0.5%

6-12 pregnancies per 100 women in a year

- Injectable: Get repeat injections on time.
- Pill: Take a pill each day.
- Patch, Ring: Keep in place, change on time.
- Diaphragm: Use correctly every time you have sex.

18 or more pregnancies per 100 women in a year

- Male Condom: 18%
- Female Condom: 21%
- Withdrawal: 22%
- Sponge: 24% parous women, 12% nulliparous women

Fertility-Awareness Based Methods

- Spermicide: 24%
- Spermicide: 28%

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.

Less Effective

- 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.

CONDONS SHOULD ALWAYS BE USED TO REDUCE THE RISK OF SEXUALLY TRANSMITTED INFECTIONS.

Other Methods of Contraception

- Lactational Amenorrhea Method: LAM is a highly effective, temporary method of contraception.
- Emergency Contraception: Emergency contraceptive pills or a copper IUD after unprotected intercourse substantially reduces risk of pregnancy.

<table>
<thead>
<tr>
<th>Device</th>
<th>Frequency of Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>COCS, POPS</td>
<td>Daily</td>
</tr>
<tr>
<td>Barriers, Spermicides</td>
<td>Coitus-related</td>
</tr>
<tr>
<td>Transdermal Patch</td>
<td>Weekly</td>
</tr>
<tr>
<td>Vaginal Ring</td>
<td>Monthly</td>
</tr>
<tr>
<td>“The Shot”</td>
<td>q 12 weeks</td>
</tr>
<tr>
<td>Subdermal Implant</td>
<td>3 years</td>
</tr>
<tr>
<td>LNG-IUS</td>
<td>5 years, 3 years</td>
</tr>
<tr>
<td>Cu-IUD</td>
<td>10 years</td>
</tr>
</tbody>
</table>
### WHO Eligibility Criteria

<table>
<thead>
<tr>
<th>Classification of Known Conditions</th>
<th>With Clinical Judgment</th>
<th>Without Clinical Judgment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>no restriction on use</td>
<td>can use</td>
</tr>
<tr>
<td>2</td>
<td>benefits generally outweigh risks</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>risks generally outweigh benefits</td>
<td>should not use</td>
</tr>
<tr>
<td>4</td>
<td>unacceptable health risk</td>
<td></td>
</tr>
</tbody>
</table>


US Medical Eligibility Criteria at CDC.gov
Endocrinology of Combined Hormonal Contraception

• Exogenous estrogens provide negative feedback to Hypothalamic-pituitary system/suppression
  • Decreased GnRH pulsatility
  • Decreased pituitary responsiveness to GnRH
  • Suppression of LH/FSH production
  • Inhibition of LH surge and thus ovulation
  • Escape ovulation may occur in ~2%

• Progestins act on the cervix to increase the viscosity of cervical mucous, preventing sperm migration
Combination Oral Contraceptives Risks

- Cautions based on Patient’s Past Medical History and Risks (Historically termed “Absolute Contraindications” = Do NOT use if.....
  - Pregnancy
  - Estrogen-dependent malignancy
  - History of DVT/PE
  - Active liver disease
  - >35 yo smoker
  - Undiagnosed AUB
Combination Hormonal Contraceptives

- WHO Medical Eligibility Criteria ([http://www.who.org](http://www.who.org)).
- Category 4 = UNACCEPTABLE HEALTH RISKS
  - Pregnancy and <6 wks PP
  - Current breast cancer (≥5 years NED)
  - History of DVT/PE, known thrombogenic mutation
  - History of Stroke, Uncontrolled hypertension, ischemic heart disease, complicated valvular heart disease
  - Active hepatitis, severe cirrhosis
  - >35 yo smoker
  - Migraine with Aura
Combination Hormonal Contraceptives

- **Health Risks (RR vs AR; Other risk factors)**
  - NO increased risk if inadvertent pregnancy
  - NO increased risk of MI in healthy, non-smoking women in US studies
- **Stroke**
  - Ischemic stroke (risk factors: smoking, hypertension, DM, obesity, <SES)
    - US/Eur studies: no increased risk in healthy non-smokers;
    - increased risk if migraine WITH aura
  - Hemorrhagic stroke (risk factors: smoking, hypertension, aging)
    - Risk not found to be increased x developing countries; BP screen
Combination Hormonal Contraceptives

- Health Risks (RR vs AR)
  - VTE (increased risk with obesity, age)

| Table 11-4 Classic estimates of venous thromboembolism per 100,000 women years |
|---------------------------------|-----------------|--------------------------|
| Incidence                       | Relative Risk   |
| Young women—general population  | 4–5             | 1                        |
| Pregnant women                  | 48–60           | 12                       |
| COC with 50 or more mcg EE     | 24–60           | 6–10                     |
| COC with less than 50 mcg EE   | 12–20           | 3–4                      |

- If some progestins (drosperinone) associated with > risks (FDA labeling)
- Hypertension
  - Most studies no increase in clinically significant hypertension
Combination Hormonal Contraceptives

• Health Risks (RR vs AR)
  • Breast Cancer
    – Risk slightly increased OR 1.08; CI 1.00-1.17 Cancer Epidemi biomarkers Prev 2013 Nov; 22(11)1931-43
    – Risk appears to return to baseline over time, 10 yrs after stopping, no increased risk
    – BRCA1/2 Positive: associations between ever use of OCs and ov & br ca are similar to general population (J Clin Oncol. 2013 Nov 20:32(33)4188-98
  • Cervical Cancer
    – Possible increased risk Cx CA precursor lesions, but studies confounded by other risks (smoking)
SIDE EFFECTS OF COMBINATION METHODS

• Most common = Breakthrough bleeding
• Other: 5-10%
  • Nausea,
  • breast tenderness,
  • headaches,
  • mood changes
• Weight gain: Placebo control trials show NO MAJOR EFFECT ON WEIGHT (Cochrane Review)
Combination Hormonal Contraceptives

- Advantages/Non-contraceptive benefits
  - Cycle-related—Decreased flow, Improved: dysmenorrhea, anemia, PMS, mittelschmerz, functional ovarian cysts
  - Cancer risk reductions
    - Ovarian--30-80% lower risk (duration of use dependant), lasting up to 2 decades
    - Endometrial--40--80% reduction in risk, lasting up to 20 years; >50 lbs overweight increases risk by nearly 10x
    - Colorectal--(OR, 0.86; CI, 0.79-0.95)
  - Decreased risk benign breast disease
Combination Oral Contraceptives

• **Advantages/Non-contraceptive benefits**
  • Improved acne/hirsutism
  • Reduced sx(s) endometriosis
  • Decreased risk anemia
  • Treatment of perimenopausal sx(s)

• **Possible benefits**
  • Reduced risk uterine fibroids
  • Beneficial impact on bone density for some
  • Lower risk SS crisis, catamenial seizures, asthma, multiple other medical dis
Endocrinology of Contraception

• Withdrawal of synthetic estrogen and progestin mimic the end of the luteal phase and allow endometrial shedding and “menstruation” = withdrawal bleeding

• Regimens are arbitrary – 21/7; 24/4; 84/7; 365; +
ORAL CONTRACEPTIVE REGIMENS

• Newer regimens: 84/7, 365, other
• Scheduled vs Unscheduled bleeding
  • Patient preference for bleeding
  • Bleeding vs spotting
• Monthly bleeding = “Monthly pregnancy test”
Shorter Pill-free Interval Can Decrease Follicular Development

Percentage of Women with Follicular Development (Follicle Size, E2, or P) using 21- or 24-day Regimens

Transdermal Patch

- Combination
  - Ethinyl estradiol 20 ug/d
  - Norelgestromin 150 ug/d
- 7 days patch x 21 days; 7 days off; vs continuous
- Sites: Abdomen, Arm, Buttock, Torso
- Risks/? Benefits/SEs similar to COCs
- Higher failure rate if >90 kg
- ? If ? VTE risk
Etonogestrel/Ethinyl Estradiol Vaginal Ring

- Progestin: Etonogestrel: 120 µg/day
- Estrogen: Ethinyl estradiol: 15 µg/day
- Worn for three out of four weeks vs continuous
- Self insertion & removal
- Pregnancy rate 0.65 per 100 woman–yrs
- Risks/? Benefits/SEs similar to COCs

PROGESTIN-ONLY METHODS

• Progestin-only pills (POPs)
• IM—Depot medroxyprogesterone acetate (DMPA)”the shot”
• Subdermal implant
• Progestin/Levonorgestrel IUDs

• Useful if contraindications to Combination Oral Contraceptives (COCs)
Progestin-only Oral Contraceptives (POPs)/"Minipills"

- 24 h or less half life/unforgiving of missed pills
  - Possibly less effective than COCs
- Bleeding patterns:
  - ~1/3 irregular
  - ~1/3 amenorrhea
  - ~1/3 ~ monthly
- Indications: Breast-feeding or Contraindications to estrogen
- Inconsistent suppression of ovulation
- Risks (in particular of VTE)< COCs, but “Class Labeling” means that FDA requires the same labeling as COCs
Mechanism(s) of Action of POPs

- Ovulation suppressed in variable % of cycles
- Progestins act on the cervix to increase the viscosity of cervical mucous, preventing sperm migration
- Reduced tubal cilia activity
- Endometrial changes, possibly impacting implantation
CHARACTERISTICS OF CONTRACEPTIVE METHODS: DMPA

- IM, also available Sub-Q
- Duration of action--12+ weeks; delayed ovulation and delayed return of fertility
- Mechanism of Action
  - Profound Suppression of ovulation-suppression FSH/LH and LH surge;
  - progestin effect cx mucus;
  - endometrium thinned
- Cautions/Risks/Safety/Perceived Safety—BMD, Class labeling
- Side Effects--BTB/amenorrhea, moods, acne
  - Weight gain mean 2-3 kg/yr
- Advantages/Non-contraceptive benefits—amenorrhea = 50% at 1 yr
CURRENT TRENDS IN CONTRACEPTION

• Developing new delivery systems--longer acting; “Forgetable”
  • LARC--Long-Acting Reversible contraception

• Extended Cycling

• Increasing access to full range of options

• Emphasizing successful use

• Widening use of emergency contraception and new options

• New hormonal components—Ethinyl Estradiol, 10 ug EE, quadriphasic
## Types of Long Acting Reversible Contraception

<table>
<thead>
<tr>
<th>Etonogestrel Implant</th>
<th>LNG IUS</th>
<th>LNG-IUD</th>
<th>T380A Copper IUD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20 mcg/24 h</td>
<td>13.5 mg</td>
<td></td>
</tr>
<tr>
<td><strong>Nexplanon®</strong></td>
<td><strong>Mirena®</strong></td>
<td><strong>Skyla®</strong></td>
<td><strong>Paragard®</strong></td>
</tr>
<tr>
<td>68 mg ENG</td>
<td>52 mg LNG</td>
<td>13.5 mg</td>
<td>380 mm²</td>
</tr>
<tr>
<td><strong>Up to 3 yrs</strong></td>
<td><strong>Up to 10 yrs</strong></td>
<td><strong>Up to 3 yrs</strong></td>
<td><strong>Up to 10 years</strong></td>
</tr>
</tbody>
</table>

ENG=etonogestrel; LNG=levonorgestrel
CHARACTERISTICS OF CONTRACEPTIVE METHODS: IUD

- Duration of action—
  - 10 years Cu;
  - 5 years LNG IUS
  - 3 years LNG IUS
- Efficacy--comparable to sterilization
  - Continuation-- ~80%
  - Compliance/Adherence/Successful Use—High
- Cost effective
- Primary Mechanism of Action—Prevention of sperm from fertilizing the ovum; NOT an abortifacient; LNG thickens cx mucus
- Side Effects:
  - Menstrual—Cu w increased bleeding; LNG with decreased and amenorrhea 50-50% at 1 year
- Risks: expulsion, perforation, string issues, ectopic pregnancy (Pregnancy uncommon, but increased risk ectopic if preg does occur), risk of PID exaggerated
First year failure rates of contraceptives (typical use)

- No contraception
- Spermicides
- Condom-male
- Oral contraceptives
- *Patch/ring
- IUD-Copper T 380A
- IUD-Levonorgestrel
- Injectable (DMPA)
- **Etonogestrel implant

DMPA = depot medroxyprogesterone acetate.
*Estimate in lieu of actual data.
**SUBDERMAL IMPLANT= Nexplanon®**

<table>
<thead>
<tr>
<th>Rod</th>
<th>Single</th>
</tr>
</thead>
<tbody>
<tr>
<td>System</td>
<td>Disposable applicator</td>
</tr>
<tr>
<td>Length</td>
<td>4 cm</td>
</tr>
<tr>
<td>Diameter</td>
<td>2 mm</td>
</tr>
<tr>
<td>Carrier</td>
<td>Evantane®</td>
</tr>
<tr>
<td>Active Agent</td>
<td>68 mg etonogestrel</td>
</tr>
<tr>
<td>Duration of Use</td>
<td>3 years</td>
</tr>
</tbody>
</table>
CHARACTERISTICS OF CONTRACEPTIVE METHODS:
Subdermal Implant

- Duration of action--3 years
- Efficacy--Clinical Trials: No pregnancies during 1200 woman-years of exposure (Pearl Index, 0; 95% CI 0.0-0.2); FDA Definition of Pregnancy: 6 pregnancies/20,648 cycles (Pearl Index, 0.38/100 woman years)
- Continuation-- 84%
- Chosen by younger adolescents in CHOICE study
- Mechanism of Action--cx mucus, ovulation suppression
- Cautions/Risks/Safety/Perceived Safety--class labeling
- Side Effects--unscheduled bleeding
- Advantages/Non-contraceptive benefits--long acting
CONTRACEPTIVE OPTIONS

– Barrier
  • Condoms
    – Male
    – Female
  • Diaphragm
  • Cervical Cap
  • Sponge
CONTRACEPTIVE OPTIONS

• Other
  – Coitus Intermittus
  – Fertility Awareness--NFP/“Rhythm”
  – Lactational Amenorrhea
• Emergency Contraception
CONTRACEPTIVE OPTIONS

• Other
  – Coitus Interruptus
  – Fertility Awareness--NFP/“Rhythm”
  – Lactational Amenorrhea
• Emergency Contraception
BARRIER CONTRACEPTIVES

- Costs--single use; Costs of failure rate/unintended pregnancy
  - Failure rate Male Condoms: typical use 12 %; Perfect Use 2%
- Prevention of STIs—YES; DUAL METHOD USE
- Ease of Use--5 steps to correct use of condoms
- Impact on Menstrual Cycle--None
- Contraceptive Choices
  - Personal Considerations/Life Events--Inexpensive, no Rx, Easy to use
  - Partner’s Views--essential
5 STEPS TO CORRECT USE OF CONDOMS

- Be careful when opening the package.
- Store the condoms in a cool, dry place for no longer than one year.
- Use the right lubricant (Latex condoms > water-based lube).
- Use the proper amount of lubricant.
- Use the right size of condom
Vaginal Spermicides/Microbicides

• Failure rate 28.2%--typical users; rate corrected for under-reporting of Abs
  • (Fu et al. Fam Plann Persp 1999;31(2):56-63)
• Motivation for development from STD/HIV perspective
  • + / - spermicidal properties of microbicides
• Active area of research
• Effect on vaginal ecosystem
  • Microbiology
  • Colposcopic assessment of abrasions/lesions
Dual Method Efficacy

- Perfect use of male condoms 3 %
- Perfect use of spermicide 6 %
- Perfect use of both together 0.1 % **

**as good as OCs . . .

Female Controlled Barriers

- Female Condom
  - Several Models available outside U.S.
    - FC2—nonlatex
  - Variable acceptability by population
  - Use for STD risk primarily, contraception secondarily
As long as:

• Condoms break
• Inclination and opportunity unexpectedly converge
• Diaphragms and cervical caps get dislodged
• women are raped
• people are so uncomfortable about sex that they need to feel swept away
• IUDs fall out....... 
• we will need morning- after birth control. Our birth control technology is imperfect, and the human psyche is imperfect. Family planners who don't offer postcoital contraception shortchange their patients.

Hatcher et al. Contraceptive Technology, 1984
EMERGENCY CONTRACEPTION—
http://www.not-2-late.com

• Progestin-only has largely replaced Combination
  • More effective with fewer side effects than COCs
  • LNG 1.5 mg within 120 hours
  • Reduces risk of pregnancy by ~74%
  • More effective when taken sooner
  • Best evidence for mechanism of action: inhibition or dysfunction of ovulation
  • Doesn’t interrupt established pregnancy—
  • NOT Abortifacient
  • Available OTC;
• Copper IUD—within 120 hours
LNG ECPs Mechanism of Action: Informed Consent and Evidence

• Personal decisions about moral acceptability should be respected
  – Package labeling indicates that its use may affect postfertilization events

• Women should be informed of the evidence:
  – that the ability of Plan B to interfere with implantation remains speculative, with virtually no evidence supporting that mechanism and some evidence contradicting it

• Women should be informed of the best available evidence:
  – Plan B’s ability to prevent pregnancy can be fully accounted for by mechanisms that do not involve interference with postfertilization events

Davidoff, F and Trussell, J. Plan B and the Politics of Doubt. JAMA Oct 11, 2006;296 1775-7
Ulipristal (Ella®)

• Mechanism of Action
  – Primary mechanism: Inhibition of ovulation or delay of ovulation
  – Selective progesterone receptor modulator (SPRM)

• Efficacy for EC: Up to 120 hrs--5 days
  – NOT time dependant

• “non-inferiority” to LNG for EC (FDA requirements)
  – Recent evidence > efficacy than LNG
  – Weight independent efficacy
Female and Male Sterilization

Closing and cutting the fallopian tubes to prevent egg from uniting with sperm.

Cutting the vas deferens to prevent sperm from mixing with ejaculate to fertilize the egg.
FEMALE STERILIZATION

- Laparoscopic interval
- Postpartum laparotomy
- Hysteroscopic
CHARACTERISTICS OF CONTRACEPTIVE METHODS--
Sterilization

• Costs--Female surgical > Male; Male Office procedure
• Prevention of STIs—possible protection BTL
• Ease of Use: Non-coitus related
• Impact on Menstrual Cycle--None
• Contraceptive Choices
  • Personal Considerations/Life Events--Regret/reversal
  • Partner’s Views
TAKE-HOME POINTS

• Contraception prevents unintended pregnancies and abortions
• Young, healthy women face > health risks with pregnancy than with contraception
• Women with medical conditions face >>> risks with pregnancy; contraception is MORE important
• Hatcher, R., et al., Contraceptive Technology. 20th ed. 2011: 1-906
• CDC, US Medical Eligibility Criteria for Contraceptive Use, based on WHO MEC, 2010 http://www.cdc.gov
• Association of Reproductive Health Professionals: http://www.ARHP.org
• For Older Teens and Young Adults: Bedsider.org
• Guttmacher.org—Fact sheets/Statistics