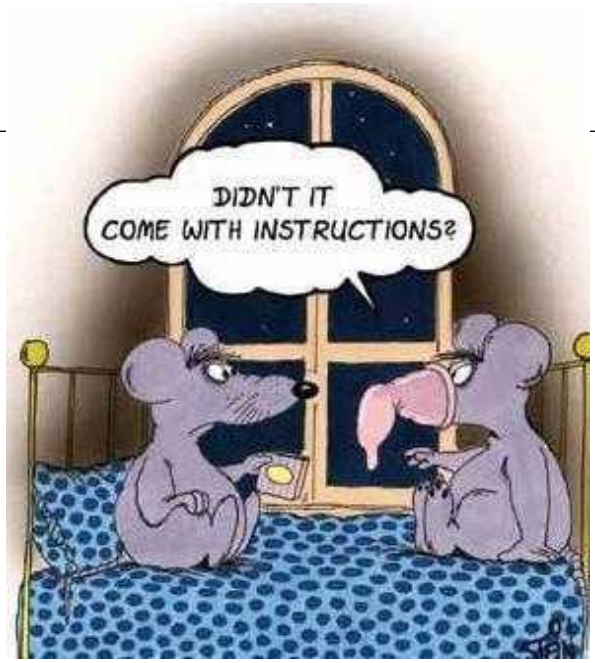
CONTRACEPTIVE CARE FOR ADOLESCENTS

Elizabeth Feldman, MD
National Assembly on School-Based Health Care
Hollywood, Florida
June, 2009



Presenter Disclosures

Elizabeth Feldman, MD

(1) The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:

No relationships to disclose

(2) My presentation will include discussion of "off-label" use of the following:

- Extended or continuous use of the vaginal contraceptive ring and any COCs
- Use of both levonorgestrel ECP tablets(doses) at once
- Use of misoprostol before IUD insertion in nullips

Objectives

- Identify factors affecting adolescent contraceptive use and method choice
- Counsel adolescents regarding contraception
- Describe different contraceptive methods and assess each method's appropriateness for adolescents
- Manage common contraceptive side effects and related issues

Adolescents and Contraception

- "The best contraceptive is hope for the future" (Marian Wright Edelman)
- Most potent predictors of teen pregnancy are poverty and childhood sexual abuse; the majority of teen births are fathered by adult males
- Adolescents use contraception as consistently and effectively as most adults
- Percentage of teens using contraception the *first* time they have sex has been steadily increasing in the last 20 years, but fewer adolescents used any contraception the *last* time they had sex

Adolescents and Contraception

- In 2003, over 70% of 15-19yo teens used a condom at *first* sex
- 63% of sexually active United States HS students used a condom at *last* intercourse, and only 17% used OCP's (only 12% said they used both)
- Teens use contraception *inconsistently*: <1/2 the adolescents who recently used condoms did so *every* time they had sex
- Hormonal contraceptive discontinuation rates are high among adolescents

Case

16 yo girl comes in for Sports PE. When you discuss confidentiality and ask about alcohol, drugs and sex, she reports having had vaginal intercourse with 1 male partner for last 4 months, using condoms “most of the time”. Wants birth control, not sure if patch, shots or pills. Doesn’t want her mom to know. Doesn’t want gyne exam. LMP 3 weeks ago. Last had sex 8 days ago, using a condom.

Factors that Influence Decision-Making about Contraception

- Age and developmental stage
- Characteristics - education, goals, future orientation, etc
- Relationship with parents/family
- Peer influence and experiences
- Influence of older male partners
- Method characteristics - costs, availability, ease of use
- Accessibility (access to condoms does not increase sexual activity)
- Non-contraceptive needs served (acne treatment, menstrual regulation, etc)
- Media influences

Risk Factors for Non-adherence

- Poverty
- History of childhood sexual abuse
- Early age at first intercourse; older male partners
- Mother or sibling who has parented early
- Academic difficulties
- Concomitant alcohol and drug use

Contraception Counseling Issues

- Confidentiality and exceptions
- Sexual/reproductive health history
- Physical exam: vitals, STI screens, uHCG
- Focus on behaviors and assess intent/ability to carry out
- Anticipatory guidance: decision-making, refusal skills, situations to avoid

History - Sexual

- Menstrual history
- Sexual orientation
- Gender identity
- Age @ 1st intercourse
- Vaginal, oral, anal sex history
- Prior contraceptive use and experience
- Pregnancies
- Childbearing plans
- Number of lifetime sexual partners
- Number partners last 3–6 mo
- History of STIs
- Sexual satisfaction
- History of survival sex, unwanted/coerced sex, sexual victimization
- Partner/peer/parent input

History - Medical

- Allergies (including latex)
- Medications
- Family history of VTE, MI or CVA < age 50
- Personal history of migraine with aura or focal neurologic deficits
- Personal history of cancer, DM1 **with complications**, liver or renal disease, HIV, other chronic illness
- Psych, eating disorders, suicidality

WHO Medical Eligibility Criteria

1) Use the method in any circumstance
2) Generally use the method (benefits outweigh risks in most cases)
3) Method not usually recommended unless other methods not available (risks outweigh benefits in most cases)
4) Method NOT to be used

Sexual History-Taking

- Teens want to talk with us about sex
- Assure confidentiality
- Explain why you ask
- No assumptions!
- Ok to ask patient to describe behaviors and contraceptive practices
- "Are you or have you been in a relationship that you consider to be sexual ?"
- Be nonjudgmental
- Acknowledge any discomfort
- Use correct terminology, but explain it

Take-Home Messages

- **Pelvic exam:** Not necessary if asymptomatic for STIs
- **Pap smear:** Not indicated until female is 21 or has been intercourse-active for 3 years
- **Emphasize** hormonal methods do not prevent STIs
- **Discuss** EC and offer to write an advance prescription if patient < 17 yrs

Factors Affecting Method Choice

- Peer influences
- Effectiveness
- Benefits vs. risk
- Side effects
- Non-contraceptive health benefits
- Frequency of intercourse
- Number of partners
- Risk for STIs
- Motivation and self-discipline
- Cultural acceptability
- Cost of medical care/method
- Access to medical care/method
- Privacy considerations

Factors Affecting Contraceptive Use

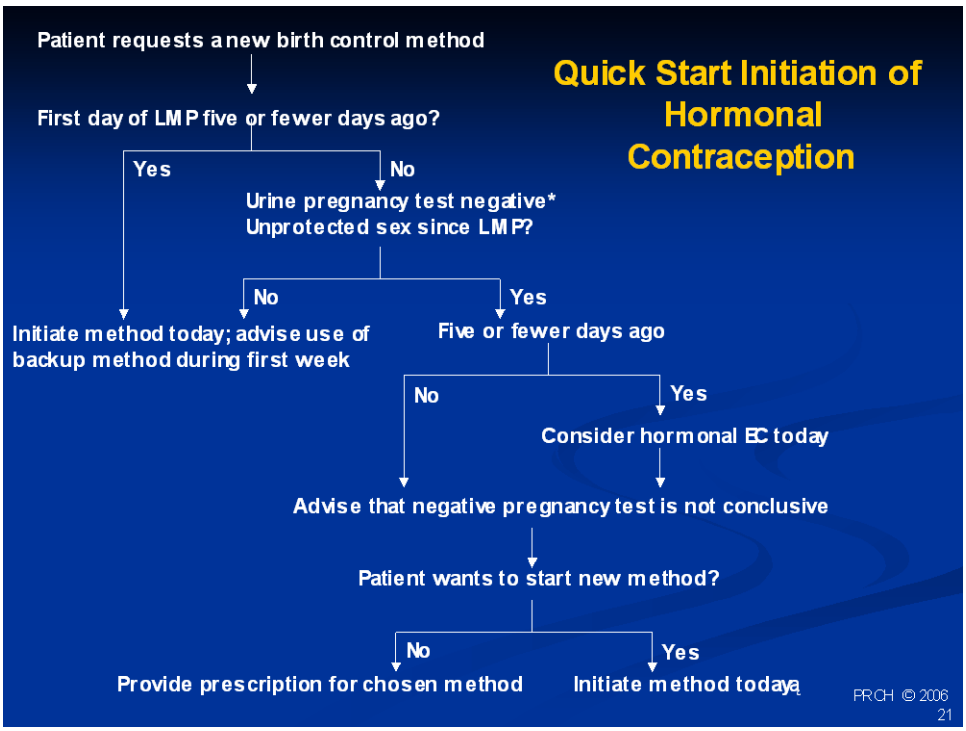
- Knowledge of contraceptive methods
- Side effects
- Knowledge of non-contraceptive benefits
- Attitudes toward pregnancy
- Peer attitudes
- Partner and parental support
- Satisfaction with provider and costs
- Access to confidential care

Hormonal Contraception 2009

- Combined Oral Contraceptive pills (COCs)
- Transdermal patch (Ortho Evra®)
- Vaginal ring (NuvaRing®)
- Depot-medroxy progesterone acetate injection (Depo-Provera ®)
- Progestin-containing implants (Implanon in North America;Jadelle)
- Progestin-Only Pills (POPs)

When to Start Contraception

- **QuickStart Method**: Patient starts method the day she fills the prescription **(Preferred – see www.rhedi.org)**
  - Assure that:
    - Patient is not pregnant
    - Understands risks and benefits of the method
- **First day of menses**
- **Sunday after menses starts**



Combined Hormonal Contraception

Pill, Patch, Ring

- **Mechanism of action**:
  - Inhibition of ovulation via suppression of the hypothalamic-pituitary-ovarian axis
  - Thickening of cervical mucus/impairing sperm
  - Alteration of endometrial lining, decreasing possibility of implantation
- **Effectiveness**:
  - Perfect use: 98-99%/Actual use: 85–99%
- **Causes of failure**:
  - Method failure; stopping due to side effects; irregular use; insufficient levels (drug interactions, nausea and vomiting)

Combined Oral Contraceptive Pill

- Pills containing 20–35 mcg of estrogen and 0.15–1 mg of progestin (varies)
- Low dose pills (< 35 mcg) have comparable efficacy and safety
- Formulations:
  - Monophasic
  - Multiphasic: biphasic and triphasic
  - 2 to 7-day hormone-free interval
- Cost: $10–$45/month

Patterns of Use

- Monthly cycling 21/7
  - 3 wks active followed by 7 placebo
- Shortened pill-free interval
  - From 7 to 2-4 days (Mircette,Yaz)
  - Shorter withdrawal bleed
- Extended/continuous use
  - Brief manipulation of cycle (events, travel)
  - Four periods/year (Seasonale, Seasonique)
  - One period per year (Lybrel - 20 mcg EE and 90 mcg levonorgestrel)

Contraindications to COC's

- Personal history of migraine **with aura or focal neurologic deficits (IHS classification)**
- Thromboembolic/vascular disease (CVA/DVT/PE), known thrombophilic mutation (Factor V Leiden)
- Severe uncontrolled HTN, complicated DM
- Being treated for estrogen-dependent cancer, acute/chronic liver disease
- Prolonged immobility
- Valvular HD/on anticoagulation
- Breastfeeding < 6 weeks postpartum

Migraine and COCs

- Without aura and <35 yrs old = WHO 2
- (Without aura and >35 = WHO 3)
- With aura = **WHO 4 at any age**
- WHO says: To check for "aura", ask "Do you see a bright spot in your vision before bad headaches?"
- IHI criteria - At least **2** attacks w/ **reversible focal neuro symptoms** that develop 5-20min, last < 1hr, consisting of visual, sensory or dysphasic sx, w/ migraine H/A during or following aura

Hormonal Contraceptive Methods

- **Most frequent concerns**: weight gain, blood clots, mood changes, fear of decreased fertility, birth defects or cancer, parents finding item
- **Actual side effects**: irregular or break-through bleeding, hypomenorrhea or amenorrhea, weight change (equal % gain and lose weight), nausea, breast tenderness, fluid retention, mood changes, headaches, drug interactions, altered lab tests, failure to use condoms to prevent STI's
- **Serious complications:** thromboembolic or vascular event – MI, CVA, VTE

Hormonal Contraceptive Methods

- **Noncontraceptive (health) benefits**
  - Lighter menstrual flow, less anemia
  - Regulated periods – less dysfunctional uterine bleeding
  - Less dysmenorrhea, pre-menstrual symptoms
  - Less acne
  - Fewer ovarian cysts
  - Less benign breast disease
  - Lowered uterine and ovarian cancer risk, ectopic pregnancy and PID risk

Hormonal Contraceptive Methods

- **Drug interactions**
  - Decreased COC efficacy and increased BTB:
    - Rifampin, griseofulvin, phenytoin, carbemazapine, barbiturates
  - Use of products containing St. John's Wort may decrease the effectiveness of COC's
  - Other antibiotics – evidence is flimsy at best

Case - Revisited

- Complete history
- Vital signs, urine HCG and GC/CH
- Initiate COCs using Quick Start
- Counsel re cycle changes in next month (irregular bleeding/2 periods)
- If had had unprotected sex in last 5 days, provide EC today

Management of Side Effects

Breakthrough bleeding (BTB):

- Rule out pregnancy, infection, anatomic cause
- Increase estrogen if using <30mcg EE
- Offer 3 day course high dose NSAID's
- Often resolves after first 2-3 months

Nausea:

- Take OC at bedtime or with evening snack/food
- Switch to lower estrogen pill, or progestin-only method
- Rule out pregnancy
- Usually disappears with time

Management of Side Effects

Headaches

- Document frequency and pattern via headache diary
- Determine headache type (muscle tension, migraine)
- Rule out other headache causes (ie stress, backpacks, etc.)
- If focal neuro symptoms/aura occur, discontinue COC's, consider progestin-only methods
- Reduce estrogen content from 30-35 to 20-25 mcg
- Consider progestin-only methods

Management of Side Effects

"Weight gain"

- Studies (Cochrane Review, 2006) do not demonstrate significant weight gain with estrogen-containing contraception
- Temporary fluid retention may contribute
- Average wt gain of obese adolescents on COCs was less than 0.5 kg

Missed Pills – What to do?

- If she misses one pill, take it as soon as she remembers, including taking it together with the next days' pill. Back-up not necessary (but condoms,yes!) and advise EC if in week 1 of cycle.
- If she misses 2 pills in Week 1 or 2, take 2 pills when she remembers and 2 the next day, resume pack. If in Week 1, use EC asap and use back-up.
- Missing 2 in week 3, discard and start new pack. Use back-up, may skip a period.
- Missing 3 or more anytime, discard and start new pack. Use back-up, may skip or have light period.
- Follow-up for HCG if no menses at end of next pack

Transdermal Patch (Ortho Evra ®)

- Thin, beige, 20 cm^2 plastic patch
  - Sticks to the skin and releases estrogen and progestin into blood
- **Route and Frequency**
  - New patch applied once a week for 3 weeks, followed by 1 week off

Patch Advantages

- Highly effective at preventing pregnancy
  - **Perfect use: 0.3% failure rate**
  - **Typical use: 8% failure rate**
- No daily maintenance
- Better compliance rates with adolescents than with pills
- Unclear if same benefits as COCs

Patch Disadvantages

- 60% more EE than COCs
- Possibly less effective if patient weighs over 198 lbs
- Skin irritation or hyperpigmentation at site
- Higher detachment rate with teens (up to 35%)
- More expensive than COCs (~ $50/month)
- Privacy concerns (esp in hot weather!)
- Estrogen-related side effects and risks

VTE Risk in Context

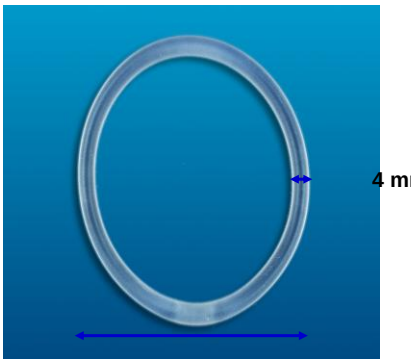
- Risk in General Population:
  - 0.8 per 10,000 women per year
- Risk in Women Using OC Containing Estrogen (? same for patch)
  - 3–4 per 10,000 women per year
  - In one study, patch users had double VTE, no increase MI/CVA
- Pregnancy and Postpartum Period:
  - Increase risk of VTE to 6–12 per 10,000 women per year

Patch User Issues

- Worn on buttocks, abdomen, upper torso (not the breast), or the outside of the upper arm
- Should be placed on clean, dry skin - no lotion
- Must stick to the skin completely for efficacy
  - Re-adhere or replace a patch right after detachment
- No patch is applied during the 4th week (there will be a withdrawal bleed)
  - Apply a new patch after day 7 even if still bleeding
- Use back-up contraception for patches left on for more than 7 days, left off for more than 7 days, or unattached for an unknown amount of time or >24 hrs
- Rx extra box so woman has enough if 1 falls off early

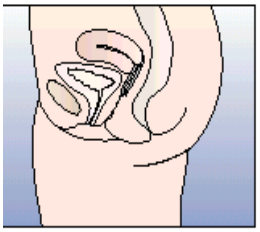
Vaginal Ring (Nuvaring ®)

- Soft flexible ring ~ 2 in. in diameter
- Contains a low dose combination of ethinyl estradiol and etonogestrel
- Absorbed continuously, directly into the blood stream through the vaginal wall



Vaginal Ring

- Vaginal musculature keeps ring in place
- Remains for 3 to 3+ weeks of continuous use, followed by ring-free week
  (can do same day of month start)
- Can be effective for up to 5 weeks



- Costs $30-35 monthly

Vaginal Ring - Pros and cons

- Highly effective (92-99+%), few side effects, private, once a month maintenance - well-liked by older teens and young adults
- Woman must be comfortable touching herself/inserting ring
- She and or partner may feel ring during intercourse
- May have increased discharge (but decreased bacterial vaginosis)

Extended use of NuvaRing

- Off-label use
- Active hormone available for 35 days
- Can use for 4 weeks, remove, replace same day with new ring
- Use reduced ring-free interval (3-5 days) for simplicity: remove ring on day 24 - 26 of month, start new ring on first day of next month

Tips for Counseling Teens

- Where will you store pills/patch/ring (not in locker in school)?
- Use cell phone alarm
- Who in your family will know?
- Partner(s) aware? Feelings?
- Birth control won't interfere with getting pregnant when you want to
- Call with side effect questions anytime- most side effects go away quickly
- Call before you just stop method!!

Progestin-Only Contraception

- All methods can cause irregular bleeding, amenorrhea, changes in menstrual cycle
- Similar mechanisms of action, benefits of combined methods, but no estrogenic side effects/risks

Depot-Medroxy Progesterone Acetate Injection (Depo-Provera)

- Long-acting progestin
- Injected in the deltoid or gluteus muscle every 3 months
- **Cost:**
  - Each injection costs between $30 and $75
  - Total cost for each year of use will be between $235 and $585 (including office visit)

Depo - “The Shot” (DMPA)

- Highly effective (97-99.7%), private, partner doesn’t know, 4 shots/year
- BUT weight gain (avg 5-15lbs) and irregular bleeding can be significant
- Bone mineral loss, increases over time (reversible in latest studies)
- Method irreversible for 3 months, requires office visit
- Reduced efficacy if > 90kg

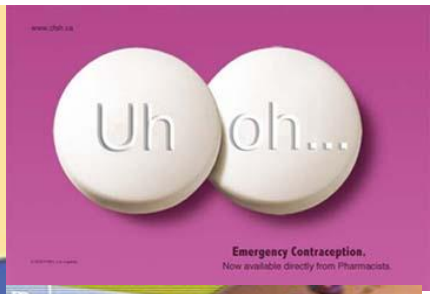
Progestin sub-dermal implant - Implanon

- Single etonogestrel-containing (68mg) rod
- Lasts for 3 years
- Insertion EASILY into inner, upper arm
- Highly effective, private, one visit
- Irregular bleeding common and can persist

Progestin-only Pills (Mini-pill)

- Low dose OCPs containing only progestin, useful if can't use estrogen
- Problem for adolescents:
  - Requires daily adherence and punctual dosing for efficacy
  - Irregular bleeding is common
- Cost: $35–$45/month
- Can be used while breastfeeding

Emergency Contraception



Emergency Contraception

- Safe and effective back-up birth control method
- Progestin-only pills (Plan B) only dedicated product
- 75-85% effective in preventing unintended pregnancy
- Estrogen-progestin combination pills (monophasic pills with levonorgestrel or norgestrel) can be used
- Safe, no teratogenicity, do not interrupt pregnancy
- Primarily pre-fertilization mechanism (debate)

Plan B: Levonorgestrel (0.75mg)

- Take up to 108 hours (5 days) after un/underprotected sex (the sooner, the better)
- Both doses at once - more effective, better adherence
- Give advance Rx (OTC in some states) - especially if not using Quick Start
- Prescribe over phone without exam
- OTC for over 18

Emergency Contraception

- Combined (Yuzpe) regimen:
  - Lo-Ovral (white pills), Levlen or Nordette (light orange), Levora (white), Triphasil or Trilevlen (yellow), Trinora (pink) - 4 pills for each of the 2 doses, 12 hours apart
  - Often recommended to take anti-nausea medication such as 25-50mg of meclizine (Bonine or Dramamine II OTC), begin ECP 1 hour later - or use if nausea after first dose
  - 50% nausea, 25% vomit (repeat dose if <1hr after taking pills)

Adolescents and EC

- To utilize EC, women under 17 must:
  - Be aware of the option
  - Locate a provider
  - Obtain a prescription
  - Find the money to pay for the pills
  - Fill the prescription at a pharmacy willing to carry and fill the EC prescription
  - Take pills within designated time frame
- There is no medical or public health reason for limiting access to EC for adolescents!!

Barrier Methods/Spermicides

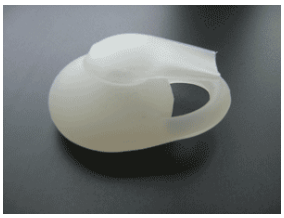
- Male condom
- Female condom
- Use of EC with barrier methods – offer to both males and females!
- Spermicides – nonoxynol-9 (gel, foam, film, suppository, cream, tablet)

Male Condom

- Ask males and females "What do you know about how to use a condom?"
- Remind teens of instructions for condom use:
  - Use a new condom every time
  - Put on the condom before genital contact = "why withdrawal doesn't work"
  - Hold the condom at the base of the penis when withdrawing
- Provide/describe EC as a back-up for when breakage and slippage occurs/not used

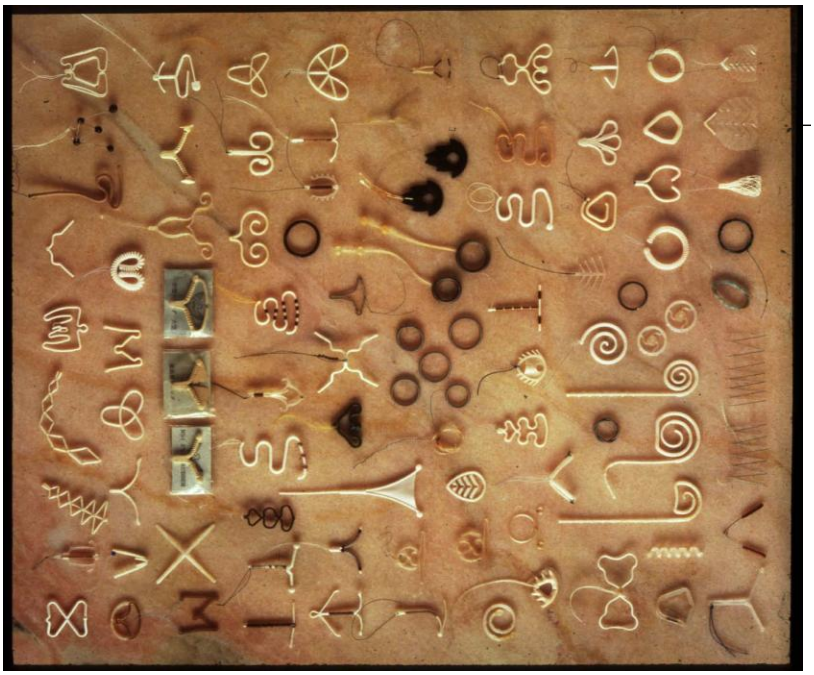
Female Barrier Methods

- Female condom
- Diaphragm, Lea's Shield, FemCap
- Not commonly used by teens (some w/ multiple partners)



IUD's and Adolescents

- IUD: T-shaped device inserted in uterus for up to 10-12 or 5-7 years
- TCu 380A (ParaGard) and LNG-IUS (Mirena) w/ levonorgestrel
- Most cost-effective reversible method
- Excellent choice for parenting teens, and teens in monogamous relationship with contraindications to estrogen
- Not contraindicated during adolescence *per se*
- Risk of infection lower than thought



IUD Insertion in Nullips/Nulligravids

- Use of misoprostol presently being researched (oral, buccal, intravaginal, 1-24 hours ahead - Cochrane study)
- Paracervical block, local anesthetic infiltration for tenaculum
- Benzocaine gel to cervix and on Q-tip to endocervix
- Pre-insertion NSAIDs
- Higher expulsion risk, but high acceptance and satisfaction after insertion

Final Take-Home Messages

- Adolescents can utilize IUDs, either copper or progesterone - consider!!
- Teens can learn to become effective pill, patch or ring users
- Easy availability of emergency contraception for use up to FIVE days after sex can reduce unintended pregnancies
- Consider extended cycling

Enjoy your adolescent patients - Help them hope for a bright future!

Acknowledgments and Resources

- Thank you to *Physicians for Reproductive Choice and Health* for Contraception slides from their Adolescent Reproductive Health Education Project:
- http://prch.org/arhep/modules.shtml
- www.who.int/reproductive-health/publications/mec/index.htm
- www.rhedi.org
- www.arhp.org
- www.contraceptiononline.org/
- www.not-2-late.com.
- www.managingcontraception.com
- www.aafp.org/afp/20060701/105.html
- www.scarleteen.com/