Adolescent Reproductive Health
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Disclosure
- I have no relevant financial relationships with the manufacturer(s) of any commercial product(s) and/or provider of commercial services discussed in this CME activity.
- I do not intend to discuss an unapproved/investigative use of a commercial product/device in my presentation.

Outline
- Contraception
- Sexually Transmitted Infections
- Cervical Cancer Screening
- Abnormal Uterine Bleeding
- Primary Amenorrhea
- Heavy Menstrual Bleeding
- Dysmenorrhea
- Resources for Patients
- Resources for Physicians and Providers
Contraceptive Health Visit

- Recommended between ages 13-15 years old
- Generally, no pelvic exam required
- Discuss birth control
  - Even if not sexually active
- Discuss GC/CT screening
  - Does not require pelvic exam (self swab, urine gc/ct)
  - Do not need results prior to IUD placement
- Counsel about safe sex and Emergency Contraception
  - Condoms, oral sex, anal sex
- HPV vaccination

Teen Birth Rate Among Girls Age 15-19

- ACOG Committee Opinion #710

CHOICE

- Contraceptive CHOICE Research Project
- Prospective cohort study
- 9,300 women in St. Louis, ages 14-45yo (~5,600 <25yo)
- Contraception at no cost
- Goals: increase LARC and decrease unintended pregnancy
  - 75% overall chose LARC at enrollment
  - 14-17yo chose LARC (implant)
  - 18-20yo chose LARC (IUD)
- 86% overall LARC continuation at 12 months
  - 14-19yo 81%
- LARC 22x less likely to have unintended pregnancy
  - <21 years on LARC, no difference in rate by age

2. Bedsider.org

Counseling About Contraception

Hello. Let’s set up your reminder.
### Contraindications to Contraception

**CDC U.S. Medical Eligibility for Contraceptive Use**

#### IUD comparison

<table>
<thead>
<tr>
<th>Brand name</th>
<th>Paragard</th>
<th>Liletta</th>
<th>Mirena</th>
<th>Method</th>
<th>Skyla</th>
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<tr>
<td>Years effective</td>
<td>10</td>
<td>8</td>
<td>8</td>
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<td>5</td>
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<tr>
<td>Can be used w/ IUD</td>
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<td>✓</td>
<td>✓</td>
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<td>X</td>
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<td>Total LUG dose (mg)</td>
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<td>60</td>
<td>82</td>
<td>19.5</td>
<td>15.5</td>
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<tr>
<td>DAILY LUG dose (µg/#/yrs)</td>
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<td>20</td>
<td>20</td>
<td>10.5</td>
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<td>Size (mm)</td>
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<td>Silver ring?</td>
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</table>

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#### Contraindications to Contraception

**CDC U.S. Medical Eligibility for Contraceptive Use**

1. Can use method: No restrictions
2. Can use method: Advantages generally outweigh proven pregnancy risks
3. Should not use method unless no other method is appropriate: Theoretical/known risks generally outweigh advantages
4. Should not use method: Unacceptable health risk
Contraindications to Contraception

- Estrogen-containing contraception
  - Hypertension, controlled or uncontrolled (MEC cat 3-4)
  - Personal history of venous thromboembolism or stroke (MEC cat 3-4)
  - Personal history of migraines with aura (MEC cat 4)

- Smoking
  - <35 MEC cat 2
  - ≥35 MEC cat 3-4

- BMI ≥30 MEC cat 2

Starting Contraception

- Quick start recommended
  - Day of visit
  - All methods, including LARC
  - Pelvic exam not required unless IUD
  - Reasonably certain patient is not pregnant
  - History and pregnant test
  - CDC website/app
  - IUD
Emergency Contraception

- Levonorgestrel pill 1.5mg
  - “Plan B”
  - 72 hours
  - OTC
- Ulipristal Acetate 30mcg
  - “Ella”
  - 120 hours
  - Rx
- Copper IUD
  - 120 hours
- 52mg LNG-IUD
  - “Mirena” and “Liletta”
  - 120 hours

Sexually Transmitted Infections and Adolescents - Screening

- C. trachomatis
  - Annual screening <25yo female
  - Rectal considered depending on sexual behaviors and exposure, through shared clinical decision-making
- N. gonorrhoeae
  - Annual screening <25yo female
  - Pharyngeal or rectal considered depending on sexual behaviors and exposure, through shared clinical decision-making
- HIV screening
  - Discuss and offer
- Other STI screening
  - Not indicated if asymptomatic

STI: Chlamydia

- Most frequent STI in the U.S.
- Highest prevalence in patients <24 years old
- Can lead to pelvic inflammatory disease, ectopic pregnancy, infertility

Diagnosis

- NAAT Cervical swab
- NAAT Rectal swab (patient collected or physician/provider collected)
- First void urine
STI: Chlamydia

- **Treatment**
  - **Recommended treatment:**
    - Doxycycline 100mg PO BID x 7 days
  - **Alternative Regimens:**
    - Azithromycin 1g PO x1
    - Levofloxacin 500mg PO QD x 7 days
  - Abstain from intercourse for 7 days after treatment and until partner has been treated
  - Test for HIV, gonorrhea, syphilis
  - Retest 3 months after treatment

STI: Gonorrhea

- **Diagnosis**
  - NAAT Cervical swab
  - NAAT Vaginal swab (patient collected or physician/provider collected)
  - First void urine

- **Treatment**
  - **Recommended**
    - Ceftriaxone 500mg IM x1 <150kg
    - Ceftriaxone 1g IM x1 >150kg
    - Treat for chlamydia only if not previously excluded
  - **Alternative if cephalosporin allergy**
    - Gentamicin 240mg IM x1 + Azithromycin 2g PO x1
  - **Alternative if no access to ceftriaxone**
    - Cefixime 800mg PO x1
    - Treat for chlamydia only if not previously excluded

STI: PID

- **Symptoms are often non-specific if mild**
  - Pelvic or lower abdominal pain
  - Partial intercourse, vaginal discharge, abnormal vaginal bleeding
  - PID can lead to infertility even if asymptomatic or mild symptoms
  - Low-threshold for diagnosis and treatment

- **Presumptive treatment**
  - Pelvic or lower abdominal pain
  - Without other obvious cause for pain
  - Or with one or the following criteria on pelvic exam:
    - Cervical motion tenderness
    - Uterine tenderness
    - Adnexal tenderness
STI: PID

- Treatment Recommended: Most common
  - Ceftriaxone 500 mg IM x 1 PLUS
  - If + gonorrhea and >150kg, give 1g IM x 1 dose
  - Doxycycline 100 mg PO BID x 14 days PLUS
  - Metronidazole 500 mg PO BID x 14 days

- Other recommended and alternative treatment regimens available

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STI and LARC

- Recommend screening for gonorrhea and chlamydia on the same day as IUD insertion.
- Can treat while IUD in place if positive screen.
- Does not increase pelvic inflammatory disease risk.
- If diagnosed with PID and IUD in place, can treat with IUD in place.
- If no clinical improvement in 48 hours, consider IUD removal.

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HPV

- Advisory Committee on Immunization Practices and ACOG
  - HPV vaccination: target age 11-12 years (may be given from age 9)
  - "Catch-up" ages 15-26 years

- HPV associated cancers
  - Cervix, vagina, vulva, penis, anus, oropharynx

- Genital warts
HPV

2020 Adolescents
- ≥1 dose HPV vaccine: 75.1%
- Up-to-date HPV vaccine: 58.6%
- ≥1 dose of Tdap 90.1%
- MenACWY 89.3%

HIV+ patient
- Earlier pap smear screening may be indicated

Cervical Cancer Screening
- American College of Obstetrics and Gynecology and USPSTF Guidelines
  - Start pap smears at age 21 years old
- American Cancer Society 2020 Guidelines
  - Start pap smears at age 25 years old with HPV screening
- HIV+ patient
  - Earlier pap smear screening may be indicated

2021

Percentage of adolescents aged 11-17 who received all recommended doses of the human papillomavirus (HPV) vaccine

26

27

28
Abnormal Uterine Bleeding in Adolescents[^11]

- More frequent than every 21 days or less frequent than every 45 days
- Greater than 3 months between periods even for 1 cycle
- Excessive menstruation
  - Change pad or tampon => every 1-2 hours
  - Flow more than 7 days
  - Associated with a history of excessive bruising or bleeding or a family history of a bleeding disorder

Abnormal Uterine Bleeding in Adolescents[^11]

- Pregnancy
- Immaturity of the hypothalamic-pituitary-ovarian axis
- Hyperandrogenic anovulation (PCOS, CAH, Androgen-producing tumors)
- Coagulopathy (HIV, platelet function disorders, hepatic failure)
- Hypothalamic dysfunction (eating disorders, obesity, underweight, stress)
- Hyperprolactinemia
- Thyroid disease
- Primary Pituitary Disease
- Primary Ovarian Insufficiency
- Iatrogenic (radiation, chemotherapy)
- Medications (hormonal contraception, anticoagulation)
- Sexually transmitted infections (gonorrhea)
- Malignancy (estrogen-producing tumors, androgen-producing tumors, rhabdomyosarcoma)
- Uterine lesions

Primary Amenorrhea

- Consider evaluation[^2]
  - No menarche by 15 years old
  - No menarche by age 14 years old with signs of hirsutism
  - No menarche by age 14 years old with a history or exam suggestive of excessive exercise or eating disorder
Primary Amenorrhea

<table>
<thead>
<tr>
<th>Category</th>
<th>Approximate Frequency (%)</th>
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<tr>
<td>Bodied development</td>
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<tr>
<td>Mullerian agenesis</td>
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<tr>
<td>Androgen insensitivity</td>
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<tr>
<td>Vaginal agenesis</td>
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<tr>
<td>Hypothalamic dysfunction</td>
<td>8</td>
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<tr>
<td>Constitutional delay</td>
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</tr>
<tr>
<td>No onset development: Age 18–20</td>
<td>46</td>
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<tr>
<td>Age 21–29</td>
<td>14</td>
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<tr>
<td>Age 30–39</td>
<td>3</td>
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<tr>
<td>Age 40–49</td>
<td>5</td>
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<tr>
<td>No onset development: low TSH</td>
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</tr>
<tr>
<td>Constitutional delay</td>
<td>10</td>
</tr>
<tr>
<td>Polycystic ovaries</td>
<td>5</td>
</tr>
<tr>
<td>Adrenal insufficiency</td>
<td>3</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>2</td>
</tr>
<tr>
<td>Stress, weight loss, anovulation</td>
<td>2</td>
</tr>
<tr>
<td>PCOS</td>
<td>9</td>
</tr>
<tr>
<td>Congenital uterine hypoplasia</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
</tr>
</tbody>
</table>

ACOG Committee Opinion: ACOG

Heavy Menstrual Bleeding

- Frequency of bleeding disorders:
  - General population: 1–2%
  - Adolescent girls with heavy menstrual periods: 20%
  - Adolescent girls hospitalized for heavy menstrual bleeding: 33%
- 50% present at menarche
- 50% present when cycles become ovulatory
- Females with bleeding disorders report heavy menstrual bleeding as the most common manifestation 75–80% of the time

Heavy Menstrual Bleeding

- Most common presentations:
  - 70% report bleeding through clothes, sheets, clothing
  - Recurrent hemorrhagic corpus luteum ovarian cysts (with or without rupture)
  - Hemoperitoneum with ovulation
Heavy Menstrual Bleeding

- Most common bleeding disorders in adolescents who present with heavy menstrual bleeding
  - von Willebrand disease
  - Platelet function defects
  - Thrombocytopenia
  - Clotting factor deficiencies

Dysmenorrhea in Adolescents

- Primary dysmenorrhea
  - Absence of pelvic pathology
- Secondary dysmenorrhea
  - Pelvic pathology and/or known condition
Dysmenorrhea in Adolescents

- Associated symptoms:
  - Nausea, vomiting, diarrhea, headaches, muscle cramps, sleep disturbances
  - Depression, anxiety
  - 12% of females 14-20 years old report missing school

- Evaluation
  - History, including family and psychosocial history
  - Pelvic exam not necessary unless concern for STI/PID, AUB, or suspicion for other cause of secondary dysmenorrhea

Primary dysmenorrhea: Empiric Treatment

- NSAIDs
  - 1-2 days before menses starts and continue through first 2-3 days of bleeding
- Hormonal Therapy
  - Combined and continuous, patch, ring, implant, injection, LNG-IUS
  - Hormone therapy used continuously may decrease pain quicker

Limited data:

- Exercise
- Heat therapy

If no improvement in 3-6 months of therapy, refer for possible secondary causes

Resources for Patients

- Bedside Website
- Bedsider.org
- Young Women's Health
- http://youngwomenshealth.org
- Great Wall of Vagina
- http://www.greatwallofvagina.co.uk/home
- ACOG Patient Education
  - Making the Most of Your Health Care Visit
  - You and Your Sexuality
  - Your Changing Body - Puberty in Girls
  - Media and Body Image
  - Your First Period
  - Lesbian, Gay, Bisexual, and Transgender Teens
  - Intimate Partner Violence
  - Birth Control (for Teens)
  - Barrier Methods of Birth Control
  - Combined/Hormonal Birth Control
  - Emergency Contraception
  - Long-Acting Reversible Contraceptives
  - Progestin-only Hormonal Birth Control
References


2. Bedsider.org


5. CDC.GOV


Thank you!

Questions?