CONTRACEPTION: MODULE II
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2. PROGESTERONE ONLY METHODS
Progestin Only Pill (POP)

- “Minipill” (Micronor, Nor-QD) norethindrone 0.35 mg
  - Increase cervical mucus viscosity, atrophic endometrium, slow ovum transport, suppress ovulation (but not uniformly in all cycles)
  - Efficacy inferior to COCS: failure rate of 8% for typical use in first year

- **Main clinical indications:**
  - Lactation
  - Estrogen-containing pills are contraindicated (ie, uncontrolled hypertension, migraine headaches with an aura, women over 35 yo who smoke)

- **Advantages:**
  - Estrogen related risks greatly decreased (ie, VTE)
  - May decrease dysmenorrhea, menstrual blood loss & premenstrual syndrome
  - Fertility reestablished immediately after cessation of use

- **Disadvantages:**
  - Continuous need for compliance
  - *Must* advise patient to take pill at **same time** each day; cannot be more than 3 **hours late** in administration; **no placebo** interval
  - Efficacy may be decreased if taken with antimicrobials & anticonvulsants
Progestin Only Pill (POP)

• **Major Contraindications:**
  • Breast/cervical/uterine/vaginal cancer
  • Hepatic disease
  • Thromboembolic disease
  • Stroke

Injectable Medroxyprogesterone: Depo-Provera

• Progesterone only method

• Inhibits ovulation by suppressing FSH & LH, resulting in a relatively hypoestrogenic state

• Failure rate 0.3% perfect use; 3% typical use

• **Dose** of 150 mg IM will suppress ovulation 12-13 weeks
  • (104 mg SQ)
  • Administer q 11-13 wks

• **First injection:** during first 5 days of menses; within 5 days postpartum (if not breastfeeding) or 6th postpartum week if breastfeeding
Injectable Medroxyprogesterone: Depo-Provera

**Main clinical indications:**
- Women who forget to take daily pills
- Breastfeeding women
- Estrogen methods are contraindicated

**Advantages:**
- Decreased risk of VTE
- Diminished anemia
- Decreased dysmenorrhea
- Decreased risk of ovarian & endometrial cancer
- Safe for use in breastfeeding

**Disadvantages:**
- Prolonged use may result in loss of bone density
  - 1000-1200 mg daily Calcium supplement
  - Consider bone density scan with long-term use (2 years)
- Patient may fear injections
- Disruption of menstrual cycle; amenorrhea occurs in 50% of women within first year
- Persistent irregular bleeding
  - Administer next injection early
  - Add low-dose estrogen temporarily
  - Short course of anti-inflammatory
- Delay in return to fertility after cessation of use

**Adverse Effects:** weight gain, depression, worsening acne, hair loss

**Major Contraindications:**
- Same as POPs
Etonorgestrel Implant: Implanon

- Implant is 40 mm in length; diameter 2 mm
- Suppresses ovulation; thickens cervical mucus; alters endometrium
- **Dose:** 68 mg implant placed subdermally, usually in the upper arm
- **Length of effectiveness:** 3 years
- **Efficacy 99%;** may be lower in overweight women

**Advantages:**
- Beneficial for patients who forget to take a pill
- Fertility reestablished as early as first week after removal

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Etonorgestrel Implant: Implanon

**Disadvantages:**
- Training required for placement
- Deep insertion may cause neural or vascular damage
- **Adverse Effects:** bleeding irregularities, emotional lability, weight gain, depression, acne

**Major Contraindications:**
- Breast cancer
- Hepatic disease/cancer
- Thromboembolic disease
- Vaginal bleeding (undiagnosed)
Levonorgestrel IUD: Mirena

- T-shaped device inserted into the uterus by a trained clinician

- **Dose:** Delivers 20 ug/d of levonorgestrel

- Removed & replaced q 5 years

- Causes migration of leukocytes into the uterine cavity, resulting in phagocytosis & destruction of spermatozoa; thickens cervical mucus, thereby alters sperm migration

- **Efficacy:** failure rate is 0.2%

- **Clinical Indications:**
  - Women who want a reversible, long-term, cost-effective contraceptive method
  - Good method if compliance with previous methods is an issue
  - May serve as emergency contraception followed by prophylactic contraception
  - Candidates should be low risk for STDs

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Levonorgestrel IUD: Mirena

- **Advantages:**
  - Contraception for 5 yrs
  - Cost effective
  - Decreased menstrual blood loss & dysmenorrhea

- **Disadvantages:**
  - Risk of perforation with insertion
  - May be expelled (especially nulliparous)
  - No protection against STDs
  - Increased menstrual blood loss occurs in first few cycles
  - May produce spotting & cramping up to 3 months after insertion
  - If conception does occur, ratio of extraterine to intrauterine pregnancy is increased
  - Requires pelvic exam, pap & screening for chlamydia/gonorrhea prior to insertion
Levonorgestrel IUD: Mirena

- **Major Contraindications:**
  - Breast/cervical/uterine cancer
  - Hepatic disease/cancer
  - HIV/AIDS
  - Vaginitis
  - Uterine leiomyomas

Emergency Contraception (EC)

- “Morning After Pills”
- Used to prevent pregnancy after unprotected sexual intercourse
- **Dose:**
  - Levonorgestrel (Plan B)
    - 750 ug tablet orally as soon as possible after intercourse (no later than 72 hrs) & a second dose 12 hours after initial dose; if patient vomits within 1 hr of dose, the dose should be repeated
  - Ulipristal (Ella)
    - One 30 mg tablet orally as soon as possible after intercourse (within 120 hrs); if patient vomits within 3 hrs of administration, consider repeating the dose

- **Efficacy:**
  - Levonorgestrel: reduces risk of pregnancy by 60-94%, higher when taken close to the time of intercourse
  - Ulipristal: efficacy is 98% when used within the 5-day window
  - (several COCs are used off label for EC, but these are less effective & not as well tolerated)
Emergency Contraception (EC)

- **Advantages:**
  - Menses & fertility return with the next cycle
  - ACOG advocates offering appropriate pts an advance prescription for EC during routine gynecologic exams

- **Disadvantages:**
  - Frequently cause nausea & vomiting; an antiemetic may be administered 60 minutes before the initial dose

- **Major Contraindications:**
  - Breast/cervical/uterine cancer
  - Hepatic disease/cancer
  - Pregnancy

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Emergency Contraception (EC)

- **Plan B, Next Choice, One Step**
  - Progesterone only
  - <72 hrs
  - OTC

- **ella**
  - Prevent implantation
  - <120 hrs
  - Rx only
  - More expensive
Nonhormonal Methods

- Male Condoms
- Female Condoms
- Diaphragm
- Cervical Cap
- Spermicides
- Copper IUD
- Cycle-Based Fertility Awareness
- Coitus Interruptus
- Prolonged Breastfeeding
- Male Sterilization (vasectomy)
- Female Sterilization (tubal ligation)
Diaphragm

- Shallow latex cup

- Inserted so posterior rim fits into the posterior fornix and the anterior rim is placed behind the pubic bone

- Various diameters are available; proper size is determined by physical exam

- Spermicidal jelly is applied to the inside of the dome, which then covers the cervix

- Prevents pregnancy by acting as barrier to the passage of semen

- Must be left in place 6 hrs following intercourse

- **Efficacy:** failure rate 6% perfect use; 16% typical use

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Diaphragm

**Advantages:**
- No hormone-related adverse effects
- Allows female control of contraception

**Disadvantages:**
- Requires professional fitting & formal training to use (refitting needed after pregnancy, abd surgery, significant weight loss)
- High failure rate
- Needs to be cleaned after each use
- Prolonged use during multiple acts of intercourse may increase risk of UTIs
- Usage for longer than 24 hrs is not recommended due to possible risk of toxic shock syndrome
Copper T IUD: Paragard

• T-shaped device with fine copper wire (380 mg) wrapped around the vertical stem & arms

• Mechanism of Action: copper ions seem to have a direct toxic effect on spermatozoa

• Efficacy:
  • failure rate is 0.8%
  • Insertion within 1 week of intercourse is 99% effective at preventing pregnancy

• Clinical Indications:
  • same as Mirena IUD

Copper T IUD: Paragard

• Advantages:
  • Contraceptive effectiveness continues for 10 years
  • Fewer systemic adverse effects than hormonal methods
  • Reduces the incidence of ectopic pregnancy (compared to no birth control)
  • Most cost-effective contraceptive choice

• Disadvantages:
  • Same as Mirena IUD
  • In addition:
    • May increase dysmenorrhea
    • May increase pelvic inflammatory disease (PID)
How to Select Method of BC?

• Art or Science?
• Any contraindications?
  • Need good health history
  • May need baseline lipid profile (CV risks?)
  • Do not tie COCs to pelvic exam/pap!
• Which delivery mode appeals to the patient?
• Compliance issues?
• Side–effect profile?
• Failure rates?
• Timing of a subsequent pregnancy?
• Cost? Samples?
• Patient request?
• Need for discreetness?
  • Family planning laws in your state R/T patients <18 yo?