IUD’s (Intrauterine Devices)
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Basics

- Top tier of birth control
  - Safest
  - As effective as sterilization but rapidly reversible
  - Least number of side effects
  - Once placed, no user compliance required for 3 – 10 years
    - Skyla IUD - 3 years
    - Mirena IUD - 5 years
    - Copper IUD - 10 years
- One of most cost effective methods of birth control
- Excellent option for adolescents
- Has several health benefits outside of contraception
- Ideal for women who cannot take estrogen
- Placed and removed with simple office procedures

Design

- Plastic (non-latex) shaped T with flexible arms
- Arms folded into small tube for placement
  - Tube passed through cervix into uterus
  - Tube is then removed allowing arms to unfold
    - T matches shape of uterine cavity
• String on bottom of T allows later removal of IUD

• **Do not work by aborting pregnancies**
  
  o Copper IUD
    
    ▪ destroys sperm before they reach the fallopian tubes

  o Mirena & Skyla IUDs
    
    ▪ thicken cervical mucous
      
      • Prevents sperm from entering uterus
      
      ▪ Toxic to sperm
      
      ▪ Inhibits binding of sperm to egg
      
      ▪ Inhibit release of egg from ovary in some

**Misinformation Limiting Use**

• May be residual from problems with Dalcon Shield IUD
  
  o Used in 1960’s

  o Multiple serious problems and a great deal of litigation

  o Was not very effective birth control

  o Used before reliable tests for chlamydia & gonorrhea
    
    ▪ Now done prior to placement of any IUD

  o Design flaw in string on bottom of IUD
    
    ▪ Braided instead of single fiber
    
    ▪ Provided pathway for bacteria to enter uterus

• Correcting common misconceptions about modern IUD’s.
  
  o Modern IUD’s
- Do not cause infections
- Do not “grow into wall of uterus”
- Do not cause infertility
- Do not cause weight gain
- Do not increase risk of tubal pregnancy
- Do not work by aborting pregnancies

**Available IUD’s**

- TCu380A (Paraguard)
  - Copper releasing IUD
  - Approved for 10 years use
- LNg20 (Mirena)
  - Levonorgestrel (progesterone) releasing IUD
  - Approved for 5 years use
- LNg14 (Skyla)
  - Levonorgestrel (progesterone) releasing IUD
  - Approved for 3 years use

**Paraguard (TCu380A) IUD**

- Non-latex plastic T
- Arms & vertical stem wound with a fine copper wire
  - Slowly releases copper into uterine cavity
- Monofilament string on bottom of string for removal
• How it works
  o Copper ions create environment toxic to sperm

• Approved for 10 years use
  o However, good evidence supports longer use
    ▪ Women between 25 & 34 at time of placement may leave in place for 12 years
    ▪ Women 35 & older at time of placement may leave in place until menopause

• Pregnancy risk
  o 1st year perfect use 0.6%
    ▪ Woman checks string weekly for expulsion
  o 1st year typical use 0.8%
  o Prolonged typical use
    ▪ 1.4% at 5 years  2.1% at 10 years

• Return to normal fertility soon after removal

• Beware of counterfeit IUD’s
  o Sold by some online pharmacies
  o Less copper = higher rate of failure

• Typically causes menses to become heavier & more painful
  o Most common reason for early removal

**Mirena (LNg20) IUD**

• T shaped polyethylene (no-latex) frame
• Has collar around the vertical stem with 52 mg of dispersed Levonorgestrel
  o A progesterone (contains no estrogen)
• Has stiff monofilament string attached to bottom of T for removal
  o Often felt by partner during intercourse- can be removed
• Has local progesterone effect on uterus
  o Local progesterone concentration is 1000x higher than with the Levonorgestrel arm implant (Implanon, Nexplanon)
• Blood level of progesterone highest during 1st few weeks then declines
  o 100-200 pg/ml 1st few weeks vs
    • 350 pg/ml with implants
    • 1500-2000 pg/ml with progestin only pills
• Approved for 5 years use
  o Limited data indicates may be effective to 7 years
    • However, insufficient to advise use beyond 5 years
• Pregnancy risk
  o 1st year perfect use 0.1%
  o 1st year typical use 0.1-0.2%
  o 5 year 0.5-1.1%
• Typically causes lighter menses after 3 months use
  o 50% of women have no menses
• May cause hormonal side effects
  o However most have none or minimal
• Return to normal fertility soon after removal

**Skyla (LNg14) IUD**

• Same design as Mirena but
  - Has smaller frame and insertion tube
  - Has less Levonorgestrel
    - Lower local & blood levels
• Approved for 3 years
  - No data supporting longer use
• Pregnancy risk
  - 1st year typical use 0.4%
  - 3 years 0.9%
• Less pain with insertion than with Mirena
• Frequent, unpredictable bleeding common 1st 3-6 months
• Fewer women have complete absence of menses
  - 13% vs 24% with Mirena
• Same incidence of hormonal side effects as Mirena
• Rapid return to fertility after removal

**Choosing to Use an IUD**

• Candidates for IUD use
  - Should have low risk of sexually transmitted diseases
    - Requires removal if infected with chlamydia or gonorrhea
    - Should use condoms to reduce STDs if at risk of STD’s
- Not planning another pregnancy for at least one year
- Want highly effective but reversible birth control
- Want or need to avoid exposure to estrogen-based methods

- May be used in
  - Women who have never been pregnant
  - Adolescents
  - Women who have had pelvic inflammatory disease
  - Women who have had an ectopic pregnancy

- Avoid using an IUD when
  - There is a severe abnormality of the uterine cavity
  - When the uterus is less than 6 cm deep
  - There is an active STD or pelvic inflammatory disease (PID)
    - May place after treatment
      - Wait 3 weeks after STD treatment if retest is negative
      - Wait 3 months after PID treatment
  - There is unexplained, abnormal bleeding
  - Pregnant or suspected of being pregnant
  - Wilson’s disease or copper allergy (Copper IUD only)
  - Current breast cancer (Mirena & Skyla only)
  - Active liver disease (Mirena & Skyla only)
  - Women who need combined estrogen-progesterone
Ex. for treatment of acne, abnormal hair growth & low bone density near time of menopause

Reasons to choose a Copper (Paraguard) IUD

- Want to avoid hormone use
  - Ex- within 5 years of breast cancer treatment
- History of progesterone side effects
- Want to continue monthly menses
- Want continuous birth control longer than 5 years
  - Note- Mirena may be replaced after 5 years
- Need emergency contraception
- Reduces cervical and endometrial (uterine lining) cancer risks

Reasons to not choose a Copper (Paraguard) IUD

- Heavy, painful menses frequent problem
  - 38% have more painful bleeding, 66% have heavier bleeding
    - Both decreased after one year
      - May be reduced with ibuprofen or Naprosyn or aspirin
- Does not protect against STD’s
  - Greater risk of developing pelvic inflammatory disease if exposed to an STD compared to Mirena use

Reasons to choose a Levonorgestrel (Mirena) IUD

- Want hormonal birth control with minimal hormonal side effects
- Decreased menstrual flow and decreased pain with menses
- Including patients who take blood thinners
- Not clear if effective with bleeding caused by fibroids
- At 2 years of use
  - 50% have complete loss of menses (returns after removal)
  - 25% have reduced menses
  - 11% have only monthly spotting
- May initially have frequent, unpredictable bleeding after placement

- Nonsurgical treatment for endometrial hyperplasia
  - Precancerous, abnormal growth of cells lining uterine cavity
  - Not clear yet if effective when hyperplasia is atypical (high risk)
- May be, but not yet clear, treatment for low grade endometrial cancer
- Protects against developing endometrial hyperplasia in those at risk
  - Women with polycystic ovarian syndrome
  - Women taking estrogen hormone replacement
  - Women taking Tamoxifen (for breast cancer)
    - Should 1st clear with doctor treating the breast cancer
- Treatment for endometriosis
- Protects against developing pelvic inflammatory disease when exposed to a sexually transmitted disease
  - Due to thickening of cervical mucous
- Reduces cervical cancer risk

IUD’s are Acceptable with
• Many chronic medical conditions
  
  o See World Health Organization

• Women who had problems in past IUD use

• Immunocompromised (ex- HIV) women

• Adolescents

• Women who have never been pregnant

• Women who had an ectopic (tubal) pregnancy

• Women immediately following delivery or abortion

• Women who are breastfeeding

• Women who need emergency contraception
  
  o Copper IUD only

• Women who have valvular heart disease

• Women who have blood clotting disorders

• Women who have had a c-section

• Most gyn problems

• Fibroids that do not severely distort the uterine cavity

• Women with osteoporosis (bone thinning)

• Women having an MRI

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