

# What else is in oral contraceptives besides hormones?

## Ortho Cept orange tablets

Silicon dioxide, colloidal  
Hydroxypropyl methylcellulose  
Iron oxides  
Lactose  
Polyethylene glycol  
Povidone  
Starch  
Stearic acid  
Talc  
Titanium dioxide  
Vitamin E

## Others:

D & C yellow # 11

## Lo/Ovral pink tablet

Cellulose  
D&C Red No. 30  
Lactose  
Magnesium stearate

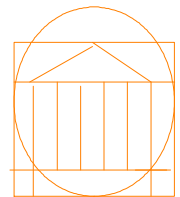
## Junel yellow tablet

Magnesium stearate  
Starch, pregelatinized  
Acacia  
Compressible sugar  
D&C Yellow No. 10  
Aluminum Lake  
Lactose (Monohydrate)

# Which COC dose not contain lactose?

- Demulen
- (But Zovia, the generic, *does* contain lactose!)

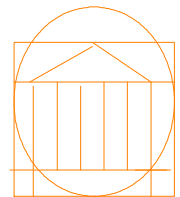
**DEPO-PROVERA**  
**(Depot medroxyprogesterone acetate)**  
**(DMPA)**



# DMPA: DepoProvera

## Mechanisms of Action

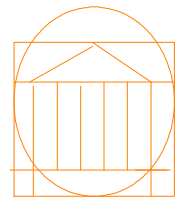
- Inhibition of ovulation
- Thickening and decreased amount of cervical mucus
- Creation of thin, atrophic endometrium
- Premature luteolysis



# DMPA

## Administration - I

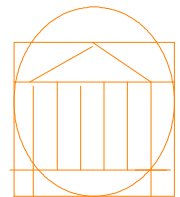
- Microcrystals suspended in aqueous solution - dissolve very slowly
- MUST use the 150 mg per cc solution (the more concentrated formulation is ineffective for contraception)
- Re-administer in 12 weeks (one week "grace period")



# DMPA

## Administration - II

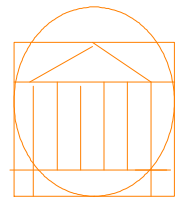
- First dose within 5 days of onset of menses
- Inject into deltoid or gluteus maximus
- Use 21-23 gauge needle, 2.5-4 cm long
- **DO NOT MASSAGE INJECTION SITE**



# DMPA

## Advantages - I

- Efficacy = 0 - 0.7 pregnancies per 100 women users per year
- No estrogen = no thrombosis
- Noncontraceptive benefits
  - fewer menses-related symptoms
  - decreased risk of endometrial cancer
  - possible decreased risk of ovarian cancer and PID
- Reversibility
- Long-term contraceptive effectiveness



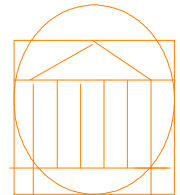
# DMPA

- Recent FDA approval for subcutaneous administration (anterior thigh or abdomen) (DepoSubQ).
- 104 mg per injection, q 12 weeks.
- Okay to alternate with IM formulation.
- Not yet approved for self-administration.

# DMPA

## Disadvantages - I

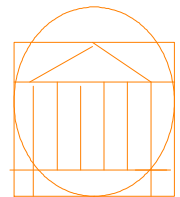
- Menstrual cycle disturbance
  - irregular bleeding: 30% in first year
  - amenorrhea: 30-50% in first year, 70% by end of second year
- Weight gain
  - WHO: 1kg/year
  - package insert: 5 lbs. first year, 8 lbs. after second year, 14 lbs. after fourth year



# DMPA

## Disadvantages - II

- Breast tenderness (3%)
- No immediate discontinuation
- Return visit every three months



# DMPA

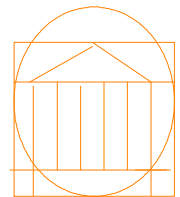
## Disadvantages - III

- November 2004: “black box” warning: **loss of bone mineral density** that may not be completely reversible.
  - Unknown whether this results in higher fracture risk post-menopause
- Use for more than 2 years **ONLY** if other methods of contraception are inadequate.

# DMPA

## Contraindications and Caution

- Do NOT use in women with:
  - known or suspected pregnancy
  - unexplained abnormal vaginal bleeding within the past three months
- Exercise caution in considering DMPA for women with:
  - planned pregnancy in fairly near future
  - marked concern over weight gain
  - severe, acute liver or gallbladder disease

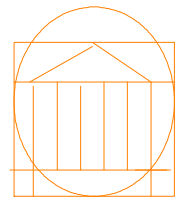


# DMPA

## Indications

- Women with medical problems
  - congenital heart disease
  - \* sickle cell anemia
  - previous thromboembolism
  - smokers over 30
  - low IQ or behavioral disorder
  - \* seizure disorder

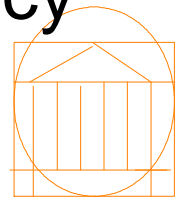
\* = may improve on DMPA



# DMPA

## Unresolved Issues

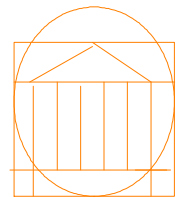
- Effect on risk of breast cancer
  - no overall increased risk
  - slight increased risk in
    - a) women <35 at diagnosis
    - b) the first 5 years of use
    - c) users <25
- Self-administration
- Inadvertent administration during pregnancy



# DMPA

## Management of Irregular Bleeding

- Rule out non-hormonal causes (cervicitis, cervical dysplasia)
- Educate
- If not contraindicated, administer estrogen:
  - Premarin 1.25 mg daily x 1-2 weeks
  - oral contraceptives for 5-21 days; can repeat



# Intrauterine Contraception

# Progestin-releasing IUD

- Levonorgestrel intrauterine system (LNG IUS = **Mirena**)
  - Releases 20 mcg levonorgestrel per day
    - Cervical mucus thickened
    - **Sperm motility and function impaired**
    - Endometrium maintained in “resting” state
    - Ovulation inhibited in some cycles
  - Efficacy = 0.1 - 0.8 pregnancies per 100 women
  - Duration = 5 years +

# LNG IUS

- Mean plasma concentration of progestin = 5% of COC level
  - Also less than POPs, Implanon
- Number of days of bleeding decreases for first 8-10 months
  - By 12 months, 20% of women have amenorrhea

# LNG IUS

- Side effects:
  - Breakthrough bleeding is common for first few months
  - Duration and amount of menstrual bleeding decreases over time

# LNG IUS

- Complications
  - Insertion-related
    - Perforation (rare: < 1/1000)
    - Infection
      - Screen women at risk for GC and chlamydia
      - Prophylactic antibiotics not indicated
  - Other
    - Expulsion
      - Higher rate in nulligravid women
      - Most common during first 6 months
      - Cumulative over 5 years = 5%
    - Return to pre-IUS fertility by 3-4 months

# LNG IUS

- Contraindications
  - Pregnancy or suspected pregnancy
  - Active cervical or endometrial infection
  - Malignancy of genital tract
  - Uterine anomaly
  - Prior ectopic pregnancy (?)

# LNG IUS

- Therapeutic (non-contraceptive) uses
  - Heavy menstrual bleeding
  - Endometrial protection for women receiving estrogen replacement
- Alternative to endometrial ablation or hysterectomy

# Copper-containing IUD

- Cu T 380A IUD (Paragard)
  - **Impair sperm function and prevent fertilization**
    - Intrauterine and tubal fluids contain copper ions, enzymes, prostaglandins and wbc's
  - Efficacy = 0.7 / 100 in first year;  
cumulative 12-year failure rate = 2.2 / 100
  - Duration = 10 + years

# Cu T 380A IUD

- Side effects
  - Cramping and pain during insertion
  - Heavier menses
  - Irregular bleeding in first few months
- Complications
  - Perforation (1 / 1000 by experienced inserter)
  - Expulsion 2-10% in first year
    - Nulliparity, heavy flow, dysmenorrhea are risk factors
  - Infection at time of insertion – very low risk

# Cu T 380A IUD

- Contraindications
  - Pregnancy
  - Current or recent ( 3mo) PID
  - Current GC or C or other purulent cervicitis
  - Current or recent puerperal sepsis
  - Undiagnosed vaginal bleeding
  - Genital tract malignancy
  - Distortion of uterine cavity
  - Allergy to component or Wilson's Disease

# IUDs – general considerations

- Counseling
  - Provide information compatible with educational level, language and culture
  - Show device
  - Dispel myths
  - Provide card with device name, date of insertion, recommended date for removal

# IUDs – general considerations

- Insertion - 1
  - Techniques are different for Cu vs LNG
  - Practice on model, then under supervision
  - Non-pregnant state
  - Consider NSAID 1 hour before insertion

# IUDs – general considerations

- Insertion - 2
  - PELVIC EXAM!
  - Antiseptic prep
  - Consider local anesthetic (anterior cervical lip and/or paracervical)
  - Apply single-toothed tenaculum to anterior lip of cervix; close s-l-o-w-l-y
  - Pull on tenaculum to straighten axis of uterus; sound cavity.

# IUDs – general considerations

- Insertion – 3
  - Per package insert for specific device
  - Do not cut strings too short

# IUDs – Managing problems

- Cramping and pain
  - NSAIDs and/or paracervical before insertion; paracervical afterwards
- Expulsion
  - If not pregnant, another IUD can be inserted immediately
- Perforation
  - Remove Cu IUD immediately
- Missing strings
  - Assess with ultrasound

# IUDs – Managing problems

- If pregnancy occurs:
  - Confirm location
  - Remove IUD promptly
- If upper genital tract infection occurs
  - Diagnosis difficult
  - When in doubt, treat (2 antibiotics)
  - Treat partner(s) presumptively
  - Not necessary to remove IUD

# Barrier Methods

# Barrier Methods – Male Condoms

- Natural rubber latex
- Lamb cecum (“natural skin”, “natural membrane”, “lambskin”)
  - Small pores permit passage of viruses including HIV
- Polyurethane
  - Limited data about STI risk reduction

# Barrier Methods – Male Condoms

- Pregnancy rate:
  - Correct and consistent use: 2% per year
  - Typical use: 15% per year
  - Single act of intercourse: 1 per 4150 couples

# Barrier Methods – Male Condoms

- Advantages
  - Reduction in risk for STIs
    - Prevention of infertility
  - Accessibility, portability, and low cost
  - Male participation
  - Hygiene
  - Prevention of sperm allergy
  - Little risk of side effects

# Barrier Methods – Male Condoms

- Disadvantages
  - Decreased sensitivity
  - Decreased spontaneity
  - Problems with erection
  - Embarrassment with obtaining condoms
  - Coitus dependence
  - Requires cooperative partners
  - Latex allergy

# Barrier Methods – Male Condoms

- STI risk reduction
  - 90% for HIV
  - Better protection against diseases transmitted by body fluids
  - Less protection against diseases transmitted by skin-to-skin contact

# Barrier Methods – Male Condoms

- Precautions
  - Latex is damaged by oil-based lubricants
  - Use of spermicides may contribute to UTIs in female and/or increased risk of transmission of STIs, including HIV

# Barrier Methods - Female

- Vaginal diaphragm
- Female condom
- Cervical cap (FemCap)
- Vaginal sponge

# Vaginal Diaphragm

- Rubber cup placed over cervix
- Must be used with spermicide
- Must be left in place for 6 hours after intercourse
- Requires individual fitting and prescription

# Vaginal Diaphragm

- Pregnancy rate:
  - Perfect use: 5% per year
  - Typical use: 20% per year

# Vaginal Diaphragm

- Advantages
  - Perhaps some reduction in STI risk
    - Lower rates of cervical dysplasia
  - No alterations in hormones
  - No systemic side effects
- Disadvantages
  - Latex allergy
  - UTIs
  - Toxic shock syndrome (rare)

# Cervical Cap

- Hat-shaped silicone rubber cap with a rim that flares outward
- Used with spermicide
- Requires fitting and prescription

# Cervical Cap (Fem Cap)

- Pregnancy rate
  - Perfect use
    - Nulliparous: 9% per year
    - Parous: 26% per year
  - Typical use
    - Nulliparous: 20% per year
    - Parous: 40% per year

# Cervical Cap (Fem Cap)

- Advantages
  - Perhaps some reduction in STI risk
    - Lower rates of cervical dysplasia
  - No alterations in hormones
  - No systemic side effects
- Disadvantages
  - Common minor problems (skin irrit., etc.)
  - UTIs
  - TSS

# Female Condom

- Polyurethane sheath
  - Two flexible rings
    - one is inside as insertion mechanism and internal anchor.
    - the other remains outside the vagina and serves as the outer open edge.
- Stronger than latex, not damaged by oil-based lubricants

# Female Condom

- Pregnancy rate
  - Perfect use: 5% per year
  - Typical use: 21% per year

# Female Condom

- Advantages
  - Reduced risk of STIs
- Disadvantages
  - Noise
  - Partner cooperation

# Female Barrier Methods

- Cautions
  - Allergy to latex, rubber, polyurethane or spermicide
  - Anatomical variations impeding fit
  - Inability to learn proper insertion
  - History of TSS (except female condom)
  - Frequent UTIs (except female condom)

# Female Barrier Methods

- Successful Users
  - Low risk of pregnancy (coital frequency, age, sexual pattern, previous failure, abuse of ETOH or other drugs)
  - Assess risk of STI exposure
  - Use combined methods
  - Understand ovulatory cycle
  - Use Plan B

# Spermicides

- Carrier or base
  - Gel, foam, cream, suppository, film, sponge
- Chemical that kills sperm
  - Nonoxynol-9
  - Octoxynol
  - Menfegol
  - Benzalkonium chloride

# Spermicides

- Pregnancy rate
  - 5 to 50% per year
- Usually best used with a barrier method
- Do not provide protection against STIs

# Spermicides

- Advantages
  - Available OTC
  - Male partner does not have to be involved
  - Useful for short-term or infrequent use
  - Useful as back-up during hormonal contraception initiation
  - Can augment effectiveness of fertility awareness methods

# Spermicides

- Disadvantages
  - Allergies
  - Inability to learn correct insertion technique
  - Anatomical variations
  - If HIV exposure is likely
  - Recurrent UTIs

# Contraceptive Counseling

- Learner's priorities and agenda
- Safe environment; appropriate style
- Listen and assume nothing