

# **Contraception update**

**Gina M. Brown, M.D.**

- **IUDs cannot be used in HIV + women**
- **Women with thromboembolic disease can never use hormonal contraception**
- **Combined hormonal contraception increases blood pressure**
- **Anti-seizure medication decreases the effectiveness of combined hormonal contraception**
- **Women on HAART need a back up method with Hormonal contraception to prevent pregnancy**

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- **OCs must be discontinued before surgery**
- **Tetracycline decreases the effectiveness of combined hormonal contraceptives**
- **Teens should not use DMPA (depoprovera)**
- **DMPA should not be used for longer than 2 years in a row**
- **The hormonal contraceptive patch has a greater risk of thromboembolism than oral contraceptives**

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- **Age**
- **Immune status**
- **Need for HIV medication**
- **Partner's status**
- **Safe conception**
- **Social supports**
- **Other health status**
- **Adherence issues**
- **Other**

# Using Contraceptives

- **Consciously decide to be sexually active**
- **Recognize pregnancy possibility**
- **Plan to prevent pregnancy**
- **Obtain the method**
- **Negotiate with partner**
- **Continue to use the method**
- **Use the method properly and regularly**

# Available Contraception Methods

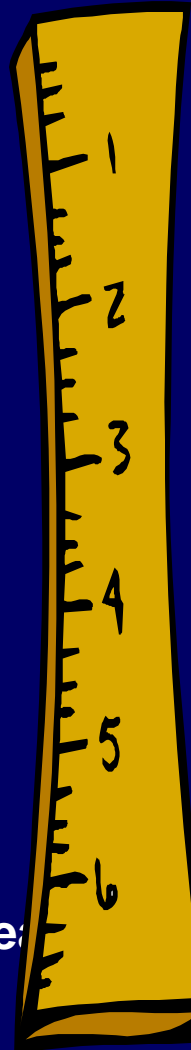
- **Hormonal oral**
- **Hormonal injectable**
- **Hormonal subcutaneous**
- **Emergency contraception**
- **IUD**
- **Barrier**
- **Surgical**
  - **Tubal ligation**
  - **Vasectomy**

# Ranking of Currently Available Contraceptive Options\*

Lowest Failure  
Rate

Highest Failure  
Rate

\*Based on typical first-year  
failure rates



Vasectomy

Implant

Tubal Sterilization

Combination Injectable

Progestin Injectable

IUD

Oral Contraceptives

Male Condom

Diaphragm

Cervical Cap

Spermicide

Coitus Interruptus

Natural Family Planning

Female Condom

# Risks Contraception

- **Combined hormonal**
- **Depoprovera**
  - **Decreased ovarian estrogen production**
- **IUD**
- **Thromboembolism**
  - **3- 4X risk**
- **Osteoporosis**
  - **Reversible**
  - **1 yr -    decr. 1.5 %**
  - **2yr –    decr 3.1 %**
  - **3yr-     lumbar spine**
  - **15 yr    osteopenia**
- **Infection at insertion**

# Hormonal Contraception

- **CHCs inhibit ovulation**
  - E and P suppress LH
  - E suppresses FSH
- **Progestin only**
  - Thickens cervical mucous
  - Inhibits ovulation (not always)
  - Thinning endometrium
  - Prevents endometrial implantation

# Warning signs for CHCs

**A** Abdominal pain

**C** Chest pain

**H** Head aches

**E** Eye problems

**S** Severe leg pain

**Mood swings, Depression, Jaundice,  
Signs of pregnancy**

# Other CHC delivery systems

	Patch	Ring
<b>Hormones</b>	Ethinyl Estradiol 20ug Norelgestromin 150ug	Ethinyl Estradiol 15ug Etonogestrel 120ug
<b>Efficacy</b>	= CHC < 90 kg	= CHC
<b>Side effects</b>	Same as CHCs	Same as COCs
<b>Adherence</b>	> CHCs	> CHCs

# Patch Safety Issues

- **Exposes patient to 60% more EE than COCs**
  - Interpreted as greater risk of thromboembolism
- **Peak EE levels 25% less than CHCs**
  - CHCs have peak and nadir
  - Patch has consistent level while in place
- **Preliminary studies suggest increased thromboembolism risk**
- **Trial comparing E+P in Patch to same E+P in CHC shows no difference** Contraception 73(2006) 223-228
- **Cochrane collaborative review shows no difference** 2006
- **FDA supports no change in current clinical practice**

# How Some Contraceptives May Increase HIV Risk

- **Combined Hormonal**
  - Increase cervical ectopy
- **Progestin only**
  - Vaginal epithelial thinning
  - Decrease vaginal acidity
- **N-9**
  - Cervical, vaginal, anal irritation
  - Cervical, vaginal, anal epithelial sloughing
- **NO thought pregnancy risk -> NO thought HIV risk**

# Diaphragm and Cervical cap to prevent HIV

- **Theoretical protection**
  - **Covers cervix---Where HIV infects most easily**
- **Practical concerns**
  - **Does not cover vagina**
  - **Concomitant spermicide use may ↑ risk**
  - **Removal exposes cervix to semen (where HIV resides)**

# Spermicides

- **Gel, foam, cream, suppository, or tablet**
- **For ideal use:**
  - **timing and location of placement in vagina**
  - **allowance of ample time for agents to dissolve**
  - **use with each coitus**
- **Efficacy: failure rates of 5% - 50%**
- **Bacterial STD transmission decreased by 25%**
- **Increased HIV risk in some circumstances**

# Barriers and STI Prevention

- **Works for some**
  - **GC**
  - **Chlamydia**
  - **Bacterial Vaginosis/ Trichomonas**
  - **Hepatitis?**
- **Not full protection**
  - **HSV**
  - **HPV**
  - **Syphilis (chancre, palm and sole lesions)**

# Barriers and HIV Prevention

- **Protective**
  - **Condoms alone**
- **Not protective**
  - **Diaphragm/Cervical cap**
  - **Spermicide**
  - **Condom plus spermicide**
  - **Diaphragm/Cap plus spermicide**
- **Spermicide use may increase risk**

# **Medication interactions and hormonal contraception**

# Antibiotics and hormonal contraception

- **Decrease steroid levels with CHCs**
  - **Rifampin**
  - **Griseofulvin**

# Contraceptive/Antiretroviral Drug Interaction

<b>Antiretroviral</b>	<b>↑ Estradiol</b>	<b>↑ Norethindrone</b>
Indinavir (Crixivan)	24%	26%
Amprenavir & Fosamprenavir	↓ Amprenavir 20%	↓ Amprenavir 20%
Atazanavir	48%	110%
Delavirdine	*	
Efavirenz (Sustiva)	37%	

# Contraceptive/Antiretroviral Drug Interactions

<b>Antiretroviral</b>	<b>↓ Estradiol</b>	<b>↓ Norethindrone</b>
<b>Nelfinavir</b>	<b>47%</b>	<b>18%</b>
<b>Lopinavir</b>	<b>42%</b>	
<b>Nevirapine</b>	<b>20%</b>	
<b>Kaletra (Lop/RTV)</b>	<b>42%</b>	
<b>TPV/RTV</b>	<b>50%</b>	

USPHS 2005

# Other HIV Medication Concerns

- **Current first and second line treatment regimens contain medications not recommended for use in pregnancy**
  - **EFV, APV, ATV, TPV**
- **Efavirenz (Sustiva, EFV) is teratogenic**
- **d4t + ddl markedly increased risk lactic acidosis in pregnancy**
- **Most women don't realize they are pregnant until (at least) 6-8 weeks gestation**

# What do Providers Need to Know?

- **What antiretroviral is used**
  - **No hormonal contraception with Amprenavir**
  - **Alternate/additional contraception**
    - **Nelfinavir, Ritonavir, Lopinavir, Nevirapine, Kaletra, TPV/RTV**
  - **No Efavirenz (Sustiva) if no effective contraception**
  - **Lowest effective hormonal dose with Atazanavir**
  - **Limited data on Kaletra (Lop/RTV), in pregnancy**
    - **Amprenavir, Atazanavir, Tipranavir**

# Providing Contraception

- **What does a provider need to do before providing Contraception?**
  - A- Physical exam**
  - B- Blood pressure**
  - C- Pap smear**
  - D- STI screen**
  - E- Complete history**

# Providing Contraception

- What does a provider need to do before providing hormonal contraception?
  - A- Physical exam
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  - C- Pap smear
  - D- STI screen
  - E- Complete history**

JAMA May 2, 2001-285 (17)

# Evaluation of Bone Mineral Density Recovery Following Discontinuation of DMPA-IM Contraception

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# Study Objectives

- **Compare BMD in adult women using**
  - **DMPA-IM 150 every 12 weeks, or**
  - **Nonhormonal contraception**
- **Study mandated by FDA at time of DMPA approval for contraception (1992)**

**BMD = bone mineral density.**

# Depo FDA study: design

- **Prospective 7 year study**
- **BMD lumbar spine and hip**
- **Depo for up to 240 weeks (4.6 years)**
- **Follow-up: up to 96 wks (1.8 years)**
- **Groups matched for race and current smoking status**

# Results: Long-Term Use in Adult Women (N=538)

- **4.6 Years on treatment**
  - **Decreases in BMD occurred in DMPA users**
- **1.8 Years post-treatment**
  - **Recovery of BMD took place in DMPA users**

# What does that mean for DMPA use and HIV?

- HIV causes bone demineralization
- No HIV / DMPA data
- Consider conservative use?
  - Limited to two years in a row duration as per FDA
- Reconsider teen use?

# Cervical Disease

# What are the risks?

- **Young age of sexual debut**
- **Number of partners**
- **STI**
- **? Hormonal contraception**
- **Smoking**
- **HIV**

# How often a Pap smear?

**A Pap is not a pelvic exam!**

- **Yearly**
  - **Once 2-3 negative in a row, then q 2-3 years**
  - **Special caveats**
    - **HIV**
      - **Every 6 mos until negative X 2 then yearly**
      - **New partner/ new STI?**
        - **Consider increased frequency**

# Who gets Colposcopy?

- **Any abnormality with HIV**
- **ASCUS/ ASC-H (cannot rule out High Grade SIL)**
- **Persistent abnormalities**
- **Low grade disease or ASCUS with high risk HPV serotypes**
- **High grade disease (CIN 2,3, CIS)**
- **ASCUS with High risk HPV**

# Who gets a biopsy?

- **Any visible lesion**
- **Colposcopically visible lesions**

# How else can we screen?

- Cytology
  - Sensitivity – 63%
  - Specificity – 94%
- **HPV DNA**
  - **Sensitivity – 88%**
  - **Specificity – 93%**
- Visual inspection with acetic acid
  - Sensitivity – 76%
  - Specificity – 81%

# What are the limitations

- **Cytology**
  - Technician, artifact, inflammation vs abnormality
- **HPV**
  - Only for some HPV High risk types
  - ? Utility with HIV
- **Visual inspection**
  - Developed expertise

# Pap vs HPV

- **Pap**

- Inexpensive
- High specificity
- Technology is person dependent
- Minimal preparation

- **HPV**

- Higher sensitivity for particular serotypes
- Costly
- Variable expression of serotypes means some can be missed
- May be useful in places without Pap smear
- Technology is machine dependent

# What about thin prep?

- Higher rate of positive
- More false positives
- Does not change outcome
- ? May increase cost
- Allows concomitant HPV detection

# HPV detection

- **Detects HPV types**
  - 6/11 (benign)
  - 16/18 (cancer causing of 75%)
- **Does not detect**
  - All other HPV types that cause cancer
  - All other benign HPV types
  - **Misses 25% of possible cancer risks**

# HPV Vaccine

- Useful *prior* to HPV exposure
  - Most effective in younger age (10-14 years)
  - Prevents HPV 6/11, 16/18 (75% HPV disease)
  - Does not prevent other cancer related and benign serotypes (accounts for 25% of HPV disease)

# Take Home

- **You must know updated and correct info on Contraception**
  - Efficacy, risks, benefits, other uses
- **You must know what meds HIV + patients are taking**
  - Interactions with contraceptives
  - Side effects
- **You should actively work with the HIV care provider**
  - Medication changes– HAART or contraception
- **HPV testing and vaccine are helpful but not a panacea**
- **Pap ~~=~~ Pelvic**