

**20<sup>th</sup> ANNUAL HIV CONFERENCE**  
of the Florida/Caribbean AIDS Education and Training Center

May 13-14, 2011  
Orlando, FL

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## HIV in Women, Pregnancy, Menopause, and Other Issues

Saturday, May 14, 2011  
11:00 am – 11:45 am

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### Disclosure of Financial Relationships

This speaker has the following significant financial relationships with commercial entities to disclose:

- **Research support from:**
  - Pfizer, Tibotec, BMS, Salix (Avent), Bavaria-Nordic, Avexa
- **Advisory board: Tibotec**

This slide set has been peer-reviewed to ensure that there are no conflicts of interest represented in the presentation.



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## Activity Objectives:

**At the conclusion of this activity, participants should be able to:**

- Describe strategies to address challenges and barriers to HIV testing among pregnant and non-pregnant women
- Evaluate current guidelines and literature regarding recommendations for care in HIV-infected women during pregnancy
- Utilize tools to effectively communicate prenatal health information to HIV-infected women
- Evaluate current guidelines and literature regarding recommendations for the gynecologic care of women living with HIV



## CDC Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant Women in Health-Care Settings MMWR 2006;55 (No. RR-14)

For pregnant women:

- HIV screening should be included in the routine panel of prenatal screening tests for all pregnant women.
- HIV screening is recommended after the patient is notified that testing will be performed unless the patient declines (opt-out screening).
- Separate written consent for HIV testing should not be required; general consent for medical care should be considered sufficient to encompass consent for HIV testing.
- Repeat screening in the third trimester is recommended in certain jurisdictions with elevated rates of HIV infection among pregnant women.

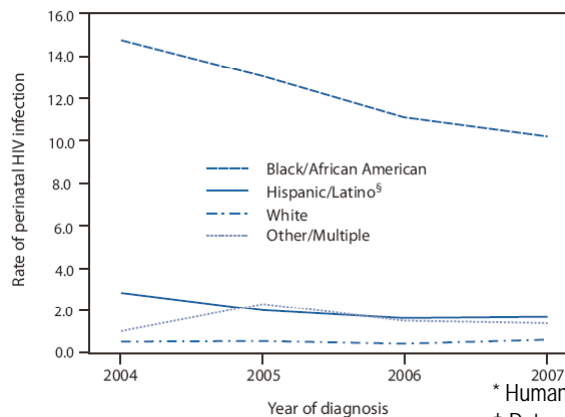


**Racial/Ethnic Disparities Among Children with Diagnoses of Perinatal HIV Infection (34 States), 2004-2007**  
**MMWR February 5, 2010 / 59(04);97-101**

- During 2004-2007, 85% of the diagnoses of perinatal HIV infection were in minorities:
  - Blacks or African Americans (69%)
  - Hispanics or Latinos (16%).
- The average annual rate of diagnoses of perinatal HIV infection during 2004-2007 was:
  - 12.3 per 100,000 among Black infants (69%),
  - 2.1 per 100,000 among Hispanic infants , and
  - 0.5 per 100,000 among White infants.



**Annual rate of diagnoses of perinatal HIV\* infection per 100,000 infants aged ≤1 year, by race/ethnicity (34 states), 2004-2007**  
**MMWR February 5, 2010 / 59(04);97-101**



\* Human immunodeficiency virus.  
 † Data adjusted for reporting delays.  
 § Hispanics/Latinos might be of any race.



## Pre-Conception Counseling

*Gynecologic Care for Women With HIV; ACOG Practice Bulletin;  
Number 117, December 2010*

- Pre-conception care is important for those women living with HIV who have postponed a pregnancy and want to achieve it now
- For new patients in care, the suspicion and detection of early pregnancy is crucial
- Preconception counseling of HIV-infected women should include a detailed discussion of:
  - interventions to reduce the risk of mother-to-child transmission,
  - ways to optimize their long-term health, and
  - possible effects of antiretroviral medications on the fetus
- Efavirenz is the only antiretroviral agent with a strongly suggested teratogenic risk, and it should be avoided in the first trimester



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## Pre-conception Counseling

*Gynecologic Care for Women With HIV; ACOG Practice Bulletin;  
Number 117, December 2010*

- All HIV-infected women considering pregnancy should be counseled regarding the availability of measures to decrease the risk of vertical transmission of HIV:
  - Including treating all HIV-infected pregnant women with HAART with the goal of reaching undetectable HIV RNA levels at the time of delivery
  - Cesarean delivery for HIV-infected women failing to achieve viral suppression of an HIV RNA level of less than 1,000 copies per millimeter
  - Avoidance of breastfeeding
  - Providing newborns with prophylactic antiretroviral medications for several weeks



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## From CROI 2011

### Extremely Low Risk of MTCT of HIV in Women Starting HAART before Pregnancy: French Perinatal Cohort, ANRS EPF CO1/11). Paper # 735

- Not considering gestational age at delivery, the transmission rate was 0.5% (95%CI 0.2 to 0.8) if HAART was initiated before conception and continued without interruption, 0.6% if initiated during the first trimester, 1.2% if during the second trimester, and 2.6% if after 28 weeks
- With a viral load <400 copies/mL near delivery, the rates were 0.1% (95%CI 0.05 to 0.3), 0.4%, 0.9%, and 1.8%, respectively. With a viral load <50 copies/mL, the rates were 0% (95%CI 0.0 to 0.3), 0%, 0.5%, and 0.8%.



## Antepartum Management of HIV-infected pregnant women

<http://aidsinfo.nih.gov/ContentFiles/PerinatalGL.pdf>

- In contrast with the guidelines for the management of adults, antiretroviral (ARV) therapy should be initiated and continued for the duration of the pregnancy, regardless of viral load and CD4 cell count in order to reduce MTCT.
- HAART is the recommended treatment during pregnancy.
- The preferred regimens during pregnancy should include a protease inhibitor and two NRTIs.
- Unless indicated earlier for maternal reasons, ARVs should be withheld during the first trimester.
- Antiretroviral therapy should be started at 12-14 weeks of gestation.
- Baseline genotype, CD4 count and HIV RNA quantification (viral load) should be obtained prior to initiation of therapy.



## Antepartum Management of HIV-Infected Pregnant Women

<http://aidsinfo.nih.gov/ContentFiles/PerinatalGL.pdf>

- Continue combination antiretroviral therapy regimen during intra-partum period (ZDV given as continuous infusion during labor while other antiretroviral agents are continued orally) and postpartum.
- Evaluate need for continuing the combination regimen postpartum; discontinue the combination regimen unless the woman has indications for continued therapy



## Antepartum Management: Protease Inhibitors

<http://aidsinfo.nih.gov/ContentFiles/PerinatalGL.pdf>

- The preferred PI during pregnancy is lopinavir/ritonavir (bid). Dose increase to 3 tablets bid is indicated after 28 weeks of gestation.
- Alternate PIs that can be used in pregnancy with proven efficacy during pregnancy are:
  - Nelfinavir
  - Boosted saquinavir
  - Boosted atazanavir (recently obtained FDA indications for use in pregnancy based on PK data)\*

\*Reyataz® (atazanavir) label revised, adding dosing recommendations for pregnancy and postpartum period  
[http://www.accessdata.fda.gov/scripts/cder/drugsatfda/index.cfm?fuseaction=Search.Label\\_ApprovalHistory](http://www.accessdata.fda.gov/scripts/cder/drugsatfda/index.cfm?fuseaction=Search.Label_ApprovalHistory)



## Elective Cesarean Section

<http://aidsinfo.nih.gov/ContentFiles/PerinatalGL.pdf>

- Schedule cesarean delivery at 38 weeks gestation if plasma HIV RNA remains >1,000 copies/mL near the time of delivery.
- When scheduled cesarean delivery is performed, the woman should receive continuous intravenous ZDV infusion beginning 3 hours before surgery.
- Use of prophylactic antibiotics at the time of cesarean delivery is generally recommended.
- Remember to administer the HAART drugs on the surgery day.



## Vaginal Delivery

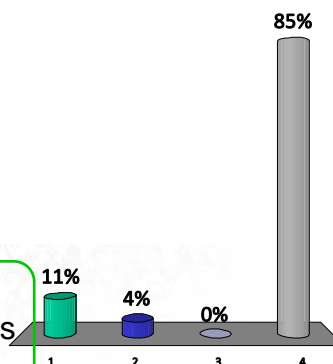
<http://aidsinfo.nih.gov/ContentFiles/PerinatalGL.pdf>

- The woman should be counseled that her risk of perinatal transmission of HIV with a persistently undetectable HIV RNA level is low, probably 1% or less, even with vaginal delivery.
- There is currently no evidence that performing a scheduled cesarean delivery will lower her risk further.
- If the decision is made to proceed with vaginal delivery, some clinicians may consider administration of oxytocin, if clinically appropriate, in order to expedite delivery.
- Scalp electrodes and other invasive monitoring and operative delivery should be avoided.
- Remember to continue HAART dosing during labor.



A woman currently on boosted atazanavir recently discovers she is pregnant. Her CD4 count is 500 cells/mm<sup>3</sup>, and her HIV RNA count is 50 copies on her first pregnancy visit at 8 weeks GA. Her management should include:

1. Changing the atazanavir for lopinavir/ritonavir
2. Recommending an elective Cesarean Section at 38 weeks GA
3. Adding nevirapine to the regimen
4. Keeping the current regimen, and managing labor recommendations according to the HIV RNA near term



## CROI 2011, Abstract 124LB

### Phase III Randomized Trial of the Safety and Efficacy of Three Neonatal Antiretroviral Regimens for the Prevention of Intra-partum HIV-1 Transmission NICHD HPTN 040/ PACTG 1043

Evaluated the safety and efficacy of adding additional ARV agents to the standard ZDV regimen to those infants whose mothers did not receive ante-partum and/or intra-partum treatment.

- This study was carried out in 19 sites, including the US and international countries.
- A total of 1,684 infants were randomized to either receive ZDV alone, ZDV and three doses of NVP or ZDV, 3TC and NFV.
- The only statistically significant difference in terms of safety was a higher rate of neutropenia among infants receiving lamiduvine and nelfinavir.

## CROI 201, Abstract 124LB

### Phase III Randomized Trial of the Safety and Efficacy of Three Neonatal Antiretroviral Regimens for the Prevention of Intrapartum HIV-1 Transmission NICHD HPTN 040/ PACTG 1043

The proportion of HIV infected infants per group was as follows (these results are statistically significant):

- o ZDV alone: 4.9%
- o ZDV plus NVP: 2.2%
- o ZDV plus 3TC plus NFV: 2.5%
- When treatment during pregnancy is not possible, adding one or two drugs to the current regimen provides another important means to reduce the chance for mother-to-child HIV transmission.
- The investigators concluded that the **two and three drug regimens were superior to the standard treatment with ZDV.**



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## CROI 2011, Abstract #769

### Risk Factors of Preterm Delivery and Low Birth Weight in a Multicenter Cohort of HIV+ Pregnant Women

#### Spanish Cohort for the Study of HIV MTCT Study of 803 Children Born of HIV+ Women in 7 Spanish hospitals, Maria Isabel González-Tomé et al

- As for ART during pregnancy, 53% of mothers received HAART with PI, 35% without PI, 4% mono- or bi-therapy, and 8% had not received ART
- Mothers who consumed illicit drugs during gestation and those without controlled gestation were more at risk of preterm birth and low birth weight.
- **There was no association between any kind of ARV combination during pregnancy and preterm birth or low birth weight and even; in fact, both events were significantly more common among mothers who were not on ART during gestation.**



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## CROI 2011 Abstract # 743

### Large Increase in Prematurity between 1990 and 2009 in HIV-Infected Women in the National ANRS French Perinatal Cohort: Does Ritonavir Boost Play a Role?

- **Preterm delivery increased steadily from**
  - 9.2% (1990 to 1993: no ART during pregnancy) and
  - 9.6% (1994 to 1996: zidovudine (AZT) monotherapy for 90% of women), to
  - 12.4% (1997 to 1999: double nucleoside analog therapy and HAART for selected patients) and
  - 14.3% (2005 to 2009: routine HAART);  $p < 0.01$ .
- **In the 1,253 women, not treated on conceiving, who initiated PI during pregnancy, the rate was higher with ritonavir (RTV)-boosted than non-boosted PI: 14.4% vs 9.1%; adj HR = 2.0 (1.1 to 3.9);  $p = 0.03$ .**



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## CROI 2011 Abstract # 752

### Effect of Prior cART Used Only to Prevent MTCT of HIV-1 on Subsequent cART Efficacy in HIV+ Women Restarting HIV Therapy with a Standard First-line Regimen: ACTG A5227

- In A5227, the first prospective clinical trial to study cART re-treatment in women previously treated with cART only to prevent MTCT, the observed virologic response to a standard first-line cART regimen was 81%.
- **This suggests that women previously treated with cART to prevent MTCT, who have no evidence of drug resistance on prior or recent standard bulk population genotyping, need not be excluded from participation in naive treatment trials.**



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# American College of Obstetrics and Gynecology (ACOG)

## *Gynecologic Care for Women With HIV* Practice Bulletin Number 117, December 2010



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### HPV and CIN

*Gynecologic Care for Women With HIV; ACOG Practice Bulletin;  
Number 117, December 2010*

- Women infected with HIV are at an increased risk of high-risk human papillomavirus (HPV) infection and cervical intraepithelial neoplasia (CIN).
- The incidence, prevalence, and persistence of HPV, including high-risk subtypes, are more common in the setting of HIV infection and increase with worsening immunosuppression (ie, decreasing CD4 count and increasing viral load).
- Among women who receive regular screening and recommended follow-up treatment, the incidence of invasive cervical cancer is not higher among HIV-infected women compared with HIV-negative women.
- **Women with HIV infection should have cervical cytology screening twice in the first year after diagnosis of HIV and annually thereafter.**



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## Management of Abnormal Pap (CIN)

*Gynecologic Care for Women With HIV; ACOG Practice Bulletin;  
Number 117, December 2010*

- The optimal management of HIV-infected women with abnormal cervical cytology test results, specifically women with atypical squamous cells of undetermined significance (ASC-US) or low-grade squamous intraepithelial lesion (LSIL), remains unclear.
- **HPV testing currently has no role in the triage of HIV-infected women with abnormal cytology results or for follow-up after treatment for CIN.**
- It is unclear whether HIV-infected women with mild cytologic abnormalities are at a similar or increased risk of clinically significant disease as compared with the uninfected population.



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## Management of abnormal Pap (CIN)

*Gynecologic Care for Women With HIV; ACOG Practice Bulletin;  
Number 117, December 2010*

- In a cross-sectional study of HIV-infected women and non-HIV-infected women with ASC-US and LSIL, HIV-infected women were as likely as HIV-negative women to have CIN 2 or higher on biopsy.
- For HIV-infected women with ASC-US or LSIL and no histologic evidence of high-grade CIN, the absolute risk of progression to CIN 2 or higher is low (approximately 12%).
- Among a cohort of HIV-infected women, CIN 1 was also shown to infrequently progress to more advanced disease.
- **Repeat cytologic testing at 6 months and 12 months is recommended for HIV-infected women with mild cytologic abnormalities, satisfactory colposcopy results, and no evidence of histologic high-grade disease.**

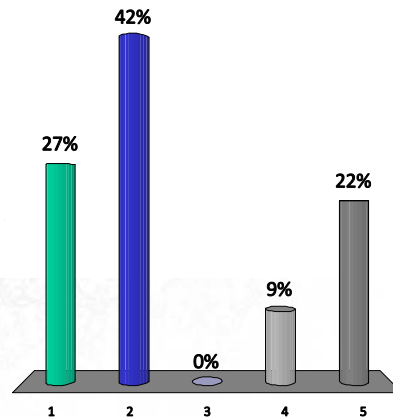


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## What should be the part of the management of women living with HIV who undergo a hysterectomy for benign reasons?

1. Estrogen and progesterone levels
2. Continue with Pap smears
3. Recommend unprotected intercourse
4. Alendronate for the prevention of osteoporosis
5. No changes in management needed



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## Cytologic Screening after Hysterectomy

*Gynecologic Care for Women With HIV; ACOG Practice Bulletin; Number 117, December 2010*

- Women with HIV infection, particularly those with evidence of high-grade CIN before or at the time of hysterectomy, are at a significantly increased risk of subsequent vaginal cytologic abnormalities compared with the general population.
- **Continued cytologic surveillance is warranted in HIV-infected women with a history of CIN 2 or greater who undergo hysterectomy.**



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## Anal Pap

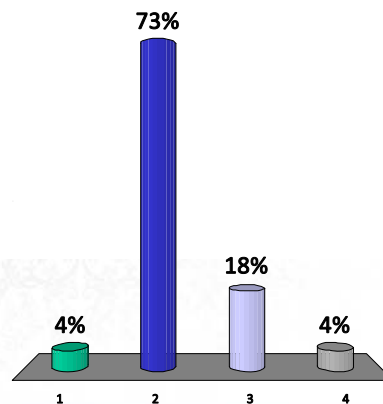
*Gynecologic Care for Women With HIV; ACOG Practice Bulletin; Number 117, December 2010*

- Women with HIV infection should be routinely questioned about rectal symptoms, such as bleeding or pain. Inspection and digital rectal examination may aid in the detection of anal cancer.
- **Anal cytology should be considered if resources, such as high-resolution anoscopy, are available to evaluate and treat any abnormal findings.**
- In addition, it may be necessary to examine atypical appearing genital warts or those not responding to treatment with biopsy to exclude pre-invasive or invasive lesions because squamous cell carcinomas arising in or resembling genital warts might occur more frequently among immunosuppressed persons.



## Adolescent girls with HIV should undergo cervical screening (Pap smear) at which frequency?

1. Every year after age 24
2. Twice in the first year after diagnosis and annually thereafter
3. Twice a year after diagnosis
4. Once a year after diagnosis



## Adolescents with HIV

*Gynecologic Care for Women With HIV; ACOG Practice Bulletin;  
Number 117, December 2010*

- **Cytologic surveillance is recommended twice in the first year after diagnosis and annually thereafter, with referral for colposcopy for any cytologic abnormality other than ASC-US.**
- Adolescents with ASC-US may be monitored with repeat cytology alone or referred to colposcopy.
- HIV is not considered a contraindication to vaccine administration, and CDC recommendations for HPV vaccination of children and adolescents should be followed.



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## Diagnosis and Treatment of Bacterial Vaginosis or Vulvovaginal Candidiasis

*Gynecologic Care for Women With HIV; ACOG Practice Bulletin;  
Number 117, December 2010*

- The treatment regimens for bacterial vaginosis in HIV-infected women are the **same** as those for non-HIV-infected women.
- For immunocompetent women with HIV infection, treatment of vulvovaginal candidiasis is **similar** to that for women without HIV infection.
- However, given the persistence of symptomatic candidiasis among HIV-infected women, topical therapies are recommended to be administered for at least 7 days, and fluconazole may be more effective when given in two sequential 150-mg doses 3 days apart.
- Long-term prophylactic therapy with fluconazole at a dose of 200 mg weekly has been shown to be effective in reducing colonization with *C albicans* and symptomatic vulvo-vaginal candidiasis in HIV-infected women (not recommended for routine primary prophylaxis in the absence of recurrent vulvo-vaginal candidiasis).



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### Diagnosis and Treatment of STIs

*Gynecologic Care for Women With HIV; ACOG Practice Bulletin;  
Number 117, December 2010*

- The CDC recommends annual **screening** for curable STIs (eg, syphilis, gonorrhea, and chlamydia) among sexually active HIV-infected women, with **more frequent** screening if indicated by symptoms or risk behaviors.
- The CDC guidelines for the treatment of pelvic inflammatory disease (PID) **do not differ** by HIV infection status.
- In general, management and treatment of syphilis among HIV-infected patients is the **same** as that among non-HIV-infected patients.



### HSV-2

*Gynecologic Care for Women With HIV; ACOG Practice Bulletin;  
Number 117, December 2010*

- Herpes simplex virus type 2 (HSV-2), the most common cause of genital ulcer disease, is more prevalent among individuals with HIV infection, with approximately 70% of HIV-infected individuals co-infected with HSV-2
- Suppressive or episodic therapy with oral antiviral agents is effective in decreasing genital ulcers, genital HSV-2 shedding, as well as HIV genital shedding and plasma HIV viral load among co-infected women.
- The treatment of HSV-2 in the context of HIV-1 co-infection often requires a longer duration of treatment at higher antiviral doses.



## Treatment of Menstrual Disorders

*Gynecologic Care for Women With HIV; ACOG Practice Bulletin;  
Number 117, December 2010*

- HIV sero-status was not associated with menstrual abnormalities when data were controlled for age, ethnicity, body mass index, smoking status, alcohol use, drug use, and parity.
- Among HIV-positive women, those using HAART and with higher CD4 counts were less likely to have menstrual abnormalities
- In the setting of HIV infection, confounding variables, such as weight loss, chronic disease, substance abuse, or use of psychotherapeutic medications, may be related to menstrual disorders



## Diagnosis and Treatment of Menopausal Symptoms

*Gynecologic Care for Women With HIV; ACOG Practice Bulletin;  
Number 117, December 2010*

- Studies suggest that the mean age at menopause for HIV-infected women is 3–4 years younger than that for uninfected women.
- A variety of factors associated with earlier menopause, including current smoking, substance abuse, African American race, lower socioeconomic level, and low relative body weight, are common among women with HIV and may be a basis for the occurrence of menopause at an earlier age.
- Baseline data from a prospective study showed that HIV infection and immunosuppression were associated with an earlier age at the onset of menopause .



## Diagnosis and Treatment of Menopausal Symptoms

*Gynecologic Care for Women With HIV; ACOG Practice Bulletin;  
Number 117, December 2010*

- In the Women's Interagency HIV Study cohort, the age at menopause was not affected by HIV status, but prolonged amenorrhea (lasting longer than 12 months) was more common among HIV-infected women than among non-HIV-infected women.
- Serum follicle-stimulating hormone (FSH) levels in approximately one half of the HIV-infected women with prolonged amenorrhea did not necessarily indicate menopausal status, and HIV-infected women were more than three times more likely than non-HIV-infected women to have prolonged amenorrhea without ovarian failure.



## CROI 2011 Abstracts on Menopause

- **Pharmacokinetics of TDF** in Blood Plasma and Cervico-vaginal Fluid of HIV+ Post-menopausal Compared with Pre-menopausal Women
  - In post-menopausal women, blood plasma AUC and blood plasma C24h **exceed** standard pharmacokinetic parameters by 160% and 125%, respectively (abstract 32)
- Healthy Post-menopausal Women Have **Higher Percentages of CCR5+ Cervical CD4+ T Cells** Compared to Pre-menopausal Women: Implications for HIV Transmission (abstract 33)
  - Elevated percentages of R5+CD4+ T lymphocytes in cervix may increase the risk for HIV acquisition in post-menopausal vs. pre-menopausal women
- **Enhanced HIV-1 Replication in ex vivo Ectocervical Tissues** from Post-menopausal Women Correlates with Increased Inflammatory Responses (abstract 776)
  - Enhanced mucosal inflammation during post-menopause may facilitate immune activation of HIV-1 target cells and enhance the likelihood of HIV-1 infection and spread at mucosal sites.



## Methods of Contraception

*Gynecologic Care for Women With HIV; ACOG Practice Bulletin;  
Number 117, December 2010*

- **Hormonal contraception is safe in women with HIV.**
- Two prospective cohort studies have assessed the safety of hormonal contraception among HIV-infected women.
- Postpartum HIV-infected Kenyan women using oral contraceptives (OCs) or depot medroxyprogesterone acetate (DMPA) showed no differences in HIV RNA load or absolute levels or a decrease in CD4 count compared with those of women not using hormonal contraception.
- In the WIHS, HIV-infected U.S. women using hormonal contraception (OCs, DMPA, or progestin contraceptive implant) had similar HIV RNA levels and minor increases in CD4 count compared with women not using hormonal contraception.



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## Methods of contraception

*Gynecologic Care for Women With HIV; ACOG Practice Bulletin;  
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- For women using HAART, there **are some concerns regarding the efficacy of hormonal contraception.**
- Hormonal contraceptives are primarily metabolized via sulfate and glucuronide conjugation in the liver and also are metabolized through cytochrome P450 enzymes.
- ART have varying effects on these metabolic pathways.
- DHHS recommends additional or alternative (non-oral/hormonal) contraception for HIV-infected women taking most NNRTIs, or PIs and recommends against co-administering combined OCs with fosamprenavir secondary to a decrease in the blood level of the antiretroviral agent.
- Up-to-date information regarding drug interactions with antiretroviral agents can be found at <http://hivinsite.ucsf.edu/insite?page=ar-00-02> and <http://www.hiv-druginteractions.org>.



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## Methods of contraception

*Gynecologic Care for Women With HIV; ACOG Practice Bulletin; Number 117, December 2010*

- For women taking ritonavir-boosted protease inhibitors, combined OCs generally are not recommended due to potentially decreased efficacy of the contraceptive.
- The non-nucleoside reverse transcriptase inhibitor nevirapine reduced levels of combined OCs (ethinyl estradiol and norethindrone) when co-administered.
- Women taking non-ritonavir boosted atazanavir or indinavir, or using efavirenz may be able to use combined OCs without a loss of efficacy.



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## Methods of Contraception

*Gynecologic Care for Women With HIV; ACOG Practice Bulletin; Number 117, December 2010*

### Antiretroviral Agents That **Decrease** Hormone Levels

- **Ritonavir, nelfinavir, lopinavir- 40–50%** decrease in ethinyl estradiol levels. *Alternative or additional method of contraception should be used.*
- **Amprenavir**—decrease in ethinyl estradiol and norethindrone levels. Because the oral contraceptive agents decrease the amprenavir levels by **20%**, the agents should not be co-administered and an *alternative method of contraception should be used.*
- **Nevirapine - 20%** decrease in ethinyl estradiol levels. *Alternative or additional method of contraception should be used.*

### Antiretroviral Agents That **Increase** Hormone Levels

- **Efavirenz - 37%** increase in ethinyl estradiol levels; clinical significance unknown. *Alternative or additional method of contraception should be used.*
- **Atazanavir - 48%** increase in ethinyl estradiol levels and **110%** increase in norethindrone levels. *The lowest effective dose or alternate method of contraception should be used.*

Data from Anderson JR. Approach to the patient. In: Anderson JR, editor. A guide to the clinical care of women with HIV. Rockville (MD): Health Resources and Services Administration; 2005. p. 35–46.



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## CROI 2011

**Effect of Hormonal Contraceptive Use on Time to AIDS or Death in Female HIV Seroconverters in Rakai, Uganda. Polis C, Wawer M, Serwadda D et al. Abstract 152**

- Hormonal contraception did not accelerate HIV disease progression in the largest study yet of women who became infected with HIV.

**Pharmacokinetic and Pharmacodynamic Activity of the Combined Oral Contraceptives in HIV+ Women in Lilongwe, Malawi Gretchen Stuart et al Abstract 637**

- Women demonstrated ovulation suppression despite previous predictions of combined oral contraceptive method failure based on combined oral contraceptive / ARV pharmacokinetic data alone.



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## Methods of Contraception

*Gynecologic Care for Women With HIV; ACOG Practice Bulletin; Number 117, December 2010*

- Depot medroxyprogesterone acetate was found to have no interactions with several antiretroviral agents, including efavirenz, nevirapine, and nelfinavir, and **is considered safe and effective** for use by HIV-infected women
- Intrauterine devices (IUDs) are a good contraceptive method for HIV-infected women
- A randomized study showed the **copper IUD is safe and effective** for use in HIV-infected women, with a higher rate of efficacy compared with combined OCs, and was associated with only one case of PID (0.16 cases per 100 woman-years)
- Recommendations for sterilization of HIV-infected women are no different than those for non-HIV-infected women.
- As with other medical conditions, consideration should be given to optimizing a patient's health status before elective surgery.



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- **Research support from:**
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