

# California Perinatal Quality Care Collaborative

## 2013 Standards of Care for the Prevention of Perinatal HIV Transmission

**2013 Revised Edition Authors:** David K Hong, MD, Nivedita Srinivas, MD

**Original Authors:** Mary Campbell Bliss, RN, MS, CNS, William Gilbert, MD, Jan Lanouette, MD, Courtney Nisbet, RN, MS, David Wirtschafter, MD, Paul Wozniak, MD, Tracy Weeber, MN, RNC,  
on behalf of the Perinatal Quality Improvement Panel (PQIP), California Perinatal Quality Care Collaborative (CPQCC)

Perinatal HIV transmission can be greatly reduced in California. This document summarizes the current recommendations of the U.S. Department of Health and Human Services (HHS) Panel on Treatment of HIV-infected Pregnant Women and Prevention of Perinatal Transmission (a Working Group of the Office of AIDS Research Advisory Council). This document is designed to assist health care providers to offer HIV information, prenatal HIV testing and care.

Updated guidelines are available at:

<http://aidsinfo.nih.gov/guidelines/html/3/perinatal-guidelines/0>

Mother-to-child HIV transmission can be reduced to the lowest possible level through a comprehensive approach that includes:

- Universal access to prenatal care and routine HIV counseling and testing with each pregnancy
- HIV counseling and rapid testing of women presenting for labor and delivery with no prior prenatal care, HIV testing, or evidence of a negative HIV test result
- Referral of all HIV-positive women to centers with expertise in HIV, perinatal care, women's specialty care, and pediatric HIV
- Access to antiretroviral therapy during pregnancy, at delivery, and postpartum
- Availability of intra-partum antiretroviral medication, if necessary, in all labor and delivery programs
- Education about treatment options and regimen adherence
- Support services for women, children and families that offer case management, mental health services, patient education, counseling, and community education
- HIV results readily available in mother's and baby's charts

### Background

- Perinatal HIV transmission can occur during pregnancy, birth, and breastfeeding
- Since 1994, perinatal HIV transmission has been greatly reduced among HIV-positive women who receive therapy before and at delivery, and whose infants are treated with 6 weeks of zidovudine in the immediate postnatal period<sup>1</sup>
- As a result of increases in testing and care, perinatal HIV transmission in the U.S. has been reduced from 25% to 2%<sup>2,3</sup>
- Transmission continues to occur among women who do not seek prenatal care, were not tested, or were tested late in pregnancy<sup>4</sup>

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- The US Public Health Service, CDC, American College of Obstetricians and Gynecology and American Academy of Pediatrics recommend universal HIV testing for pregnant women <sup>5</sup>

#### **Legislation and Reporting**

- California legislation currently mandates that all prenatal providers draw blood for HIV testing as a part of prenatal labs. AB 1676, Dutra (chaptered 11/03) amends Section 125085 of the Health and Safety code to require provision of HIV information to the pregnant patient and collection of blood (when Blood type / Hepatitis B serology is performed). AB 682 (chaptered 10/07) simplified the HIV testing and documentation requirements. Providers are to utilize the “opt-out” (routine voluntary HIV testing with the right to decline) rather than the “opt-in” (non-directive patient choice) methodology. As always, women have the right to accept or refuse the HIV test under this law. Information regarding HIV testing of pregnant women may be given by people providing prenatal or intrapartum care. This means that staff other than physicians may provide education and document any refusal of the testing in either the prenatal or hospital setting.

For details about current California legislation regarding HIV:

<http://www.cdph.ca.gov/programs/aids/Pages/OAHIVAIDSLaws.aspx>

- The State of California has developed HIV education forms in English and 13 other languages, which provide information about pregnancy and HIV testing.  
<http://www.cdph.ca.gov/pubsforms/forms/Pages/AIDSForms5Individuals.aspx>
- HIV infection is a reportable disease and health care providers are required to report positive HIV tests to their local Public Health Department.

#### **Recommendations for HIV Screening of Pregnant Women**

- **All pregnant women should be tested for HIV infection.**
- HIV screening is mandated as a routine part of prenatal care for all women. All health care providers should inform their pregnant patients about HIV testing as part of prenatal testing, pointing out the substantial benefit of knowledge of HIV status for the health of women and their infants. Even with the “opt-out” approach, women may decline HIV testing if their doctor does not recommend and encourage it.
- HIV testing should be performed in women as early as possible in the pregnancy. If a patient declines an HIV test (opting out), it should be re-offered at regular intervals throughout the pregnancy. Retesting in the third trimester, preferably before 36 weeks of gestation, is recommended for women known to be at high risk for acquiring HIV.
- Rapid HIV testing should be offered to all women who present in labor with no available HIV test results. Rapid testing information is available from the Centers for Disease: <http://www.cdc.gov/hiv/testing/lab/guidelines/index.html>
- Before HIV testing, health care providers should provide the following minimum information. Although a face-to-face counseling session is ideal, other methods can be used, (e.g., brochure, or video) if they are culturally and linguistically appropriate.
  - HIV is the virus that causes AIDS.
  - HIV is spread through unprotected sexual contact and injection drug use.  
Approximately 25% of HIV infected pregnant women who are not treated during

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pregnancy can transmit HIV to their infants during pregnancy, during labor and delivery, or through breastfeeding.

- A woman can be at risk for HIV infection even if she has had only one sex partner.
- Effective interventions (e.g., highly active combination antiretrovirals) for HIV infected pregnant women can protect their infants from acquiring HIV and improve the health and survival of these mothers and their children.
- Services are available to help women reduce their risk for HIV infection and transmission. Medical care and social services are available to those who are in need.

#### **Management of HIV Positive HIV Tests during Pregnancy**

- HIV post-test counseling for women who test positive should include:
  - Information about the availability of highly active antiretroviral therapy (HAART) for treatment of HIV and prevention of perinatal HIV transmission
  - Psycho-social support
  - Information about testing of other family members
  - Immediate referral to an HIV program/provider that provides specialized HIV services

#### **Treatment of HIV Infection during Pregnancy**

- Providers who have limited expertise in maternal-pediatric HIV care should immediately seek consultation and refer the HIV-infected pregnant woman to an HIV specialist for treatment and/or consultation. The National Perinatal HIV Consultation and Referral Service at **888-448-8765** is available to provide free 24-hour clinical consultation and referral services.
- Regardless of plasma HIV RNA copy number or CD4 T-cell count, **all pregnant HIV-infected women should receive a combination anti-retroviral (ARV) drug regimen** to maximally suppress viral replication and prevent perinatal transmission
- The choice of regimen must balance efficacy of combination, the known data on particular ARVs during pregnancy, and the potential teratogenicity of ARVs
- Treatment should begin as soon as possible during pregnancy to maximize prevention of transmission to the infant
- Combination regimens should include a two nucleoside reverse transcriptase inhibitors (NRTI) backbone PLUS either a non-nucleoside reverse transcriptase inhibitor (NNRTI) or protease inhibitor (PI)
- HIV-infected women already receiving ARVs who present for care during their first trimester should continue the same regimen during pregnancy
- Recommendations for resistance testing for HIV infected pregnant women are the same as for non-pregnant patients: acute HIV infection, new diagnosis of HIV infection of unknown duration, virologic failure, sub-optimal viral suppression after initiation of antiretroviral therapy, or high likelihood of exposure to resistant virus based on community prevalence or source characteristics.

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**CLINICAL SITUATIONS AND RECOMMENDATIONS FOR ANTIRETROVIRAL THERAPY**

**SCENARIO # 1 HIV infected pregnant women who have not received prior antiretroviral therapy**

1. Pregnant women with newly diagnosed HIV infection must receive standard clinical, immunologic, and virologic evaluation. Recommendations for initiation and choice of antiretroviral therapy should be based on the same parameters used for persons who are not pregnant, although the known and unknown risks and benefits of such therapy during pregnancy must be considered and discussed.
2. Regardless of plasma HIV RNA copy number or CD4 T-cell count, **all pregnant HIV-infected women should receive a combination anti-retroviral (ARV) drug regimen** to maximally suppress viral replication and prevent perinatal transmission.
3. Combination regimens should include a two nucleoside reverse transcriptase inhibitors (NRTI) backbone PLUS either a non-nucleoside reverse transcriptase inhibitor (NNRTI) or protease inhibitor (PI).
4. Women who are in the first trimester of pregnancy may consider delaying initiation of therapy until after 12 weeks gestation. However this decision will depend on HIV RNA viral load, CD4 T-cell count, and clinical status of the patient. Earlier initiation of ARVs may be more effective at reducing transmission.

**SCENARIO # 2 HIV infected women receiving antiretroviral therapy during the current pregnancy**

1. HIV-infected women receiving antiretroviral therapy in whom pregnancy is identified after the first trimester should continue therapy assuming that the current regimen is well-tolerated and effective.
2. HIV-infected women already receiving efavirenz as part of an effective ARV regimen should continue during pregnancy.
3. Pregnant women already receiving and tolerating nevirapine as part of their regimen, should continue it during pregnancy despite the higher incidence of hepatitis.
4. Regardless of the ARV regimen used during pregnancy, zidovudine is recommended for intrapartum treatment and treatment in the newborn for prophylaxis.

**Antiretroviral Drug Precautions during Pregnancy**

- Efavirenz (Sustiva) was thought to be associated with a higher incidence of birth defects if given during the first trimester. However recent studies suggest that there is no association between efavirenz use and birth defects<sup>6</sup>. If a patient is already on an effective efavirenz-containing regimen, she should continue the regimen.
- Avoid use of stavudine (d4T) and didanosine (ddI) in combination because of the risk of lactic acidosis-related maternal mortality.
- Do not combine zidovudine (ZDV) with stavudine (d4T).

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#### **Treatment Discontinuation during Pregnancy**

- Women who must temporarily discontinue therapy because of pregnancy-related hyperemesis should not reinstitute therapy until sufficient time has elapsed to ensure the drugs will be tolerated. To reduce the potential for emergence of resistance, if therapy requires temporary discontinuation for any reason during pregnancy, all drugs should be stopped and reintroduced simultaneously.

#### **Prenatal Care**

- All HIV positive pregnant women should receive care and/or consultation from providers who have expertise in the management of HIV during pregnancy, and delivery.
- In addition to routine prenatal care, all HIV+ women should receive:
  - Comprehensive HIV care, appropriate lab evaluations and prophylaxis
  - Information about the availability of antiretroviral therapy for the treatment of HIV and prevention of perinatal HIV transmission; access to treatment, education about risk reduction; and safer sexual practices
  - Psychosocial support, comprehensive health education and assistance with the testing and care of family members
  - Invasive prenatal diagnostic procedures such as chorionic villus sampling or amniocentesis should not be performed without a discussion with the patient regarding potential risks versus benefits

#### **Perinatal HIV Transmission and Mode of Delivery**

- Optimal medical management during pregnancy should include highly active antiretroviral therapy (HAART) to suppress plasma HIV RNA to undetectable levels.
- Labor and delivery management of HIV-infected pregnant women should focus on minimizing the risk for both perinatal transmission of HIV and the potential for maternal and neonatal complications.
  - Avoid artificial rupture of membranes
  - Avoid scalp electrodes
  - Avoid episiotomies (if possible)
  - Avoid any procedure that may increase risk of fetal contact with maternal blood or vaginal secretions
- A scheduled Cesarean section should be offered to women with HIV RNA viral load over 1,000 copies/mL, unknown viral load, or to women who are untreated during pregnancy and arrive prior to active labor or rupture of membranes.

#### **Timing of Scheduled Cesarean Section**

- If the decision is made to perform a scheduled Cesarean delivery to prevent HIV transmission, the American College of Obstetrics and Gynecology recommends that it is scheduled at 38 weeks of gestation using clinical and first or second trimester ultrasonographic estimates of gestational age. Amniocentesis should be avoided for fetal lung maturity testing.
- Patient should be counseled to come to hospital quickly if in labor prior to scheduled Cesarean section time.

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- For women who present with ruptured membranes prior to scheduled Cesarean section, management must be individualized, and take into account the duration of the rupture of membranes/labor, current anti-retroviral regimen and HIV RNA level.

**MODE OF DELIVERY CLINICAL SCENARIOS**

The following guidelines are based on scenarios that may be encountered in clinical practice. These scenarios are not all inclusive and present only recommendations; flexibility should be exercised according to the patient's individual circumstances.

**Case #1 HIV positive woman, not on antiretroviral therapy, presents after 36 weeks. Viral load and CD4 are pending and not available before delivery.**

Therapy:

- Options should be discussed in detail. Begin combination antiretroviral therapy.
- Consultation with a HIV specialist is highly recommended

Delivery:

- Scheduled Cesarean section is likely to reduce transmission to infant.
- Discuss anesthesia and surgical risks.
- Schedule Cesarean section at 38 weeks based on best available clinical information.
- Avoid amniocentesis, scalp electrodes and other invasive monitoring if possible.

Intrapartum Treatment:

- IV ZDV 2 mg/kg for 1 hour, followed by 1 mg/kg/hour continuous infusion beginning three hours before surgery until delivery.
- Ideally, ZDV infusion should be initiated  $\geq 3$  hours prior to cesarean section.

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**Case #2 HIV positive woman who began prenatal care in the third trimester and is responding to treatment, but viral load is well over 1000 copies/mL at 36-week gestation.**

Therapy:

- Continue antiretroviral regimen.
- Counsel that she is responding to therapy, but it is unlikely that her HIV RNA level will be below 1000 copies/mL before delivery.

Delivery:

- Scheduled Cesarean section may provide additional benefit in preventing intrapartum transmission of HIV.
- Discuss anesthesia and surgical risks.
- If she chooses Cesarean section, it should be performed at 38 weeks gestation according to best available dating parameter; counsel patient to come in early if in labor prior to scheduled Cesarean section time.
- Scalp electrodes and other invasive monitoring should be avoided, if possible.

Intrapartum Treatment:

- As the previous case.
- If already on antiretroviral regimen that includes ZDV, hold oral ZDV while patient is receiving IV formulation but continue remainder of the outpatient regimen without interruption.

**Case #3 Woman on antiretroviral therapy with an undetectable HIV RNA level at 36 weeks gestation**

Therapy:

- Continue antiretroviral regimen.
- Counsel her that her risk of perinatal transmission of HIV with undetectable HIV RNA level is low; 2% or less.

Delivery:

- There is no information to evaluate whether a scheduled Cesarean delivery will lower risk of transmission further.
- Balance uncertain benefit with risk of Cesarean section vs. vaginal delivery.
- Scalp electrodes and other invasive monitoring should be avoided, if possible.

Intrapartum Treatment:

- Routine use of intravenous ZDV is no longer recommended for women with HIV viral load < 400 copies near the time of delivery<sup>7</sup>.
- If already on antiretroviral regimen that includes ZDV, recommend continuation of the outpatient regimen without interruption.

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**Case #4 HIV positive woman scheduled for elective Cesarean delivery presents in early labor or shortly after rupture of membranes.**

**Delivery:**

- If labor progressing rapidly, delivery vaginally.
- If a long period of labor is anticipated, may load with ZDV (if indicated based on maternal viral load) and proceed with Cesarean delivery.
- May also provide pitocin augmentation, if clinically appropriate, to expedite delivery.
- Scalp electrodes and other invasive monitoring should be avoided, if possible.

**Intrapartum Treatment:**

- As previous. Intravenous ZDV indicated for women with unknown viral load or those with viral load >400 copies near the time of delivery.
- If already on antiretroviral regimen, recommend continuation of the outpatient regimen without interruption but hold oral ZDV during intravenous ZDV administration.

**Case #5 Woman with no prenatal care presents to L&D in labor. Rapid HIV testing accepted and returns with a positive result**

**Consultation with a specialist is highly recommended**

**Counseling:**

- Discuss results of HIV screen and the confirmatory test being run by lab.
- Provide opportunity to decrease perinatal transmission through intrapartum treatment.
- Discuss privacy issues, defining who is to learn about this test result.

**Delivery:**

- Minimize invasive procedures, if possible.
- Vaginal or Cesarean birth per patient wishes after discussion of risks/benefits.

**Intrapartum Treatment:**

- IV ZDV 2mg/kg for 1 hour, followed by 1 mg/kg/hour continuous infusion until delivery.

**Newborn Care for Infants Born to HIV Positive Mothers**

The following care should occur for all HIV exposed newborns, whether or not their mothers received therapy.

- Refer for Pediatric Infectious Disease consultation (Refer to Resource list).
- Discuss the recommended neonatal regimen with the mother and begin a 6 week course of ZDV syrup at the appropriate dose based on gestational age:
  - GA  $\geq$  35 weeks: 4 mg/kg orally every twelve hours.
  - GA  $\geq$ 30 weeks and <35 weeks: 2 mg/kg/dose every 12 hours. Increase dose at 15 days of age to 3 mg/kg/dose every 12 hours.
  - GA <30 weeks: 2 mg/kg/dose every 12 hours. At 4 weeks of age, increase dose to 3 mg/kg/dose every 12 hours.
- Infants born to HIV-infected women who have not received antepartum antiretroviral drugs should receive prophylaxis with zidovudine given for 6 weeks combined with three doses of nevirapine in the first week of life (at birth, 48 hours later, and 96 hours after the second dose), begun as soon after birth as possible.



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- Two-drug regimens provide equal efficacy and less toxicity as compared with three-drug ARV regimens for post-exposure prophylaxis<sup>8</sup>.
- In the United States, the use of anti-retroviral drugs other than zidovudine and nevirapine cannot be recommended in premature infants because of lack of dosing and safety data.
- HIV-infected mothers should not breastfeed given the risk of HIV transmission via breastmilk.
- Perform CBC (with differential and platelet count) on newborns as a baseline evaluation.
- Decisions about the timing of subsequent monitoring of hematologic parameters in infants depend on baseline hematologic values, gestational age at birth, clinical condition of the infants, the zidovudine dose being administered, receipt of other ARV drugs and concomitant medications, and maternal antepartum ARV therapy.
- Screening: Perform HIV DNA or RNA PCR within 14-21 days after birth.
  - If HIV DNA PCR is positive, confirm with repeat PCR as soon as possible after positive test result.
  - If HIV DNA PCR is negative, repeat PCR at 1 to 2 months, and at 4 to 6 months of age.
- Before discharge, refer the infant for follow-up care:
  - Contact pharmacy to order oral AZT for infant after discharge
  - Refer to regional Pediatric HIV center (See Resource List)
  - Arrange a case manager and public health nurse
  - Contact primary care provider and provide a copy of the discharge summary
- If a mother is discharged before the result of the infant's HIV test is available, the provider should obtain accurate contact information for follow-up before she is discharged. The provider will then be able to reach the woman for immediate treatment of the infant with a positive result.

#### **HIV Antibody Tests for Infants and Children**

- The HIV antibody test (ELISA) is not used to screen infants of HIV positive mothers because positive antibody results may reflect maternal HIV status of antibodies passively transferred to infant and do not diagnose infection in children at less than 18 months of age.
- All children born to an HIV infected mother should be screened for HIV:
  - Use HIV DNA or RNA PCR tests for infants < 18 months of age;
  - Use HIV antibody test (ELISA) for children >18 months of age.

#### **Breastfeeding**

- It is strongly recommended that women planning to breastfeed be tested for HIV prenatally.
- HIV positive women should NOT breastfeed.
- If the HIV positive mother has been breastfeeding, she should be counseled to discontinue.

#### **Postpartum HIV Follow-up for Women**

- All women should receive comprehensive HIV medical care services. Continuing antiretroviral treatment is especially critical and must be ensured when such treatment is required for the woman's HIV infection.

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- Providers should facilitate referrals - HIV specialist, medication refills, Case Manager, Public Health Nurse.

#### **Community Resources**

- Refer to Resource List of HIV centers.
- Provide HIV medications for uninsured individuals. Medi-Cal: (866) 262-9881
  - Medi-Cal funds medical services for children and adults with limited income and resources. Call the toll-free number for an appointment.

#### **Provider Resources**

- National HIV/AIDS Telephone Consultation Service: 1-800-933-3413  
Monday through Friday, 5 a.m. to 5 p.m. Eastern Time  
*Provides expert clinical advice on HIV/AIDS management for health care providers, from those with limited access to expert consultation to those with complex antiretroviral resistance dilemmas.*

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