2012 UPDATED GUIDELINES FOR MANAGEMENT OF
BABIES BORN TO HIV-INFECTED WOMEN
(and women who are at high risk but have not been tested yet)

Maternal HIV-related Care:
The care of HIV-infected, pregnant women should ideally be provided by an expert in adult HIV care in conjunction with an expert in perinatal care. The goal needs to be to maximally control maternal HIV disease to minimize the risk of vertical transmission. Details about treatment for women are in "***Recommendations for Use of Antiretroviral Drugs in Pregnant, HIV-1 Infected Women for Maternal Health and Interventions to Reduce Perinatal HIV-1 Transmission in the United States***" and can be found at http://www.aidsinfo.nih.gov/contentfiles/lvguidelines/perinatalgl.pdf. Detailed information about the mother's antiretroviral therapy prior to and during the pregnancy and about her response to that therapy is essential to management of the baby. Women whose disease is suboptimally controlled should be given IV zidovudine (AZT) during labor. Some women may carry HIV that is resistant to many of the available antiretroviral agents. Infants born to these women may need dramatic modifications of their care and should be discussed with an expert in pediatric HIV disease. Breastfeeding confers an additional 15% risk of transmission and is strongly discouraged in the United States. C-section may confer added protection for the infant if mother's latest viral load is >1,000 copies/mL.

Women at high risk but not recently tested or with undocumented results:
These women should be approached for consent and testing using a rapid HIV test. Detaills about rapid testing, consent, interventions, and follow-up (and in pregnancy) can be found at http://www.cdc.gov/std/treatment/2010/hiv.htm

Babies whose mothers have poorly-controlled disease or AZT-resistant virus may need combinations of anti-retroviral drugs to prevent HIV transmission and should be discussed with an expert in HIV in children.

STANDARD DOSING OF ZIDOVUDINE (AZT) FOR INFANTS BORN TO HIV-INFECTED WOMEN:

GEST. AGE	ORAL DOSING (start within 6-12 hrs of birth)	INTRAVENOUS DOSING (if unable to tolerate PO)
≥ 35 wks GA at birth	4 mg/kg/dose PO q12h for 6 weeks	3 mg/kg/dose IV q12h for 6 weeks
≥ 30-35 wks GA at birth	2 mg/kg/dose PO q12h for first 14 days, THEN increase to 3 mg/kg/dose PO q12h for remainder of 6 weeks	1.5 mg/kg/dose IV q12h for first 14 days, THEN increase to 2.3 mg/kg/dose IV q12h for remainder of 6 weeks
< 30 wks GA at birth	2 mg/kg/dose PO q12h for first 4 weeks, THEN increase to 3 mg/kg/dose PO q12h for remainder of 6 weeks	1.5 mg/kg/dose IV q12h for first 4 weeks, THEN increase to 2.3 mg/kg/dose IV q12h for remainder of 6 weeks

Liquid AZT has a high osmolarity and should be diluted into or given concurrently with formula feedings. AZT dose should be gradually increased with baby's weight. **Please discharge baby with a 200 mL supply of AZT (10 mg/mL)** which should last for 6 weeks. Many pharmacies do not carry the syrup and Medi-Cal doesn't reimburse sufficiently, so be sure that mother has access to a pharmacy that has and will dispense liquid AZT (try Children's Clinic Pharmacy, 510-428-3166). If the baby cannot take medication or is not being fed yet, AZT can be also be given IV (doses listed above).

TESTING CONSENT ISSUES:
Consent to test should be obtained on the standard forms for the hospital where the baby will be delivered and the form should indicate permission to reveal the test results to the primary care physician as well as to Dr. Ann Petru at Children's Hospital & Research Center Oakland (CHRCO). California laws about not requiring signatures only apply to teens and adults; you still need mom's consent to test and to release info to CHRCO.

For babies who are not going to be released to their mothers: Please ask a perinatal social worker to **obtain MATERNAL consent for follow-up testing and care of the infant at CHRCO BEFORE mother is discharged**. This process can be initiated as soon as it is clear that the baby will not be discharged to mother. In order for babies going to foster care to have a proper evaluation and testing at CHRCO, maternal or court consent is needed. Court consent often takes weeks to obtain and can delay follow-up HIV PCR testing and potentially delay diagnosis and treatment of HIV infection.

Mother's signature is needed on three separate forms: (1) the **standard CHRCO consent for HIV testing**, (2**) consent for release of maternal and newborn records**, and (3) **consent for referral to CCS** --- California Children's Services.

CCS is a program that will pay the expenses for testing, medication, and staff time while the child is being evaluated for HIV infection. Copies of all three of these forms should be available in the nursery and can be faxed if necessary. Maternal, rather than court consent, is preferred and ideal not only because it saves time, but also because it allows the mother a chance to be involved in and contribute to her baby's well being. It also gives the social workers a chance to discuss issues surrounding the care and support of mother for her own disease. It is especially important that one of the CHRCO social workers be informed of HIV exposed infants who will be going to foster care as soon as possible.

TESTING INFANTS:

Testing of infants for HIV requires **consent** from the mother. Please ask that the name of **Dr. Ann Petru** (CHRCO, Pediatric HIV/AIDS Program) be included in the list of those to whom results will be sent. This makes tracking down the results later much simpler for all concerned. Within 48 hours after birth, mainly for high-risk moms whose virus has not been well-controlled, obtain blood from the infant for **HIV DNA PCR** or **HIV RNA PCR** (check with your lab about tube color and volume of blood needed). The DNA test requires less blood but takes longer than the RNA test, and the tubes required are different. All infants should have **CBC with differential** and **ALT**. Infants whose mothers received protease inhibitors (indinavir, ritonavir, nelfinavir, saquinavir, amprenavir, fosamprenavir, atazanavir, darunavir, tipranavir, or lopinavir/ritonavir) should also have **blood glucose** and **triglyceride** tests as well. **Blood for HIV PCR should NEVER be obtained from the umbilical cord. In low-risk cases, baby's first HIV test can wait until 2 weeks of age.** Babies whose mothers come from other countries may have virus that is not detectable with the HIV DNA PCR (qualitative). Those babies should be tested with an HIV RNA PCR ("viral load", or quantitative) test instead, also from peripheral blood, collected within the first 48 hours of life.

For infants whose mothers report HIV infection, but for whom there is no written documentation, please also send an **HIV-1,2 antibody** (red top tube) from the infant to confirm maternal infection. Information about mother's HIV status (her viral loads and CD4 counts during pregnancy and any information about her **drug resistance pattern**) needs to be shared with the team who will care for the infant. This is important for future management and for legal reasons.

Proof that a baby is not infected requires at least 2 HIV PCR tests, one of which has to be done at/after 4 weeks and the second at/after 4 months of age. Newborn infants at high risk should first be tested in the first 48 hours after birth; those at lower risk can be tested starting at 2 weeks of age. Ideally, testing should be done as follows:

Low risk infants (mom's disease is well controlled): 2 weeks, 4-6 weeks, and after 4 months.
High risk infants (mom's disease is poorly controlled): First 48 hours, 2 weeks, 4-6 weeks, and after 4 months.

Beyond 6 weeks of age:

Prophylaxis against *Pneumocystis jiroveci* pneumonia (PCP) is not indicated for infants who have at least 2 negative studies by the time they are 4-6 weeks of age. **Only children with a positive PCR test should be placed on PCP prophylaxis with TMP-SMX** (75 mg/M2/dose BID TIW), which is usually 2.5 mL PO BID on Sat/Sun/Mondays in term infants. Alternative schedules and drugs are available. Those infants found to have any POSITIVE HIV DNA or RNA PCR studies are presumed to have HIV and need more aggressive management in the Pediatric Infectious Disease clinic.

Referral: Please call whenever an infant is expected to be or is born to an HIV-infected mother.

Many of the women are known at CHRCO and our information may be critical in the infant's management. We can and will help to remind pediatricians about critical issues in the care of these challenging infants.

Please make a direct referral of **all HIV-exposed infants** to **the Pediatric HIV/AIDS Program** at **Children's Hospital & Research Center Oakland** prior to the infant's discharge. Most babies are seen at 2 weeks of age in the "Hope Clinic". Referrals should be made to one of the staff at **(510) 428-3337** (through Joyce Young). If no answer, call Dr. Petru at **(510) 428-3336 or, on weekends/holidays, ask for the ID physician on call at (510)428-3000**.

Medical Staff at Children's Hospital & Research Center Oakland, Pediatric Infectious Diseases Division:

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Pediatric ID Fellows are available by phone and may cover on weekends	510-428-3000

Staff in the Pediatric AIDS/HIV Program:

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