

UCSD Medical Center: WOMEN AND CHILDREN'S SERVICES	POLICY/PROCEDURE TITLE: HUMAN IMMUNODEFICIENCY VIRUS PREVENTION OF PERINATAL TRANSMISSION
RELATED TO: <input type="checkbox"/> Medical Center Policy (MCP) <input type="checkbox"/> Nursing Practice Stds. <input type="checkbox"/> JCAHO <input type="checkbox"/> Patient Care Stds. <input type="checkbox"/> QA <input type="checkbox"/> Other <input type="checkbox"/> Title 22	<input type="checkbox"/> ADMINISTRATIVE <input checked="" type="checkbox"/> CLINICAL PAGE 1 OF 5 Effective date: 10/01 Revision date: 10/04, 1/8/07, 4.10.08 Reviewed: 4/10/08 Unit/Department of Origin: L & D Other Approval:

- I. HIV Testing Including Rapid HIV Testing on Labor & Delivery
- II. Management of Rapid HIV Test Results
- III. HIV Treatment for HIV Positive Women on Antiretroviral Therapy During Pregnancy
- IV. Care for Perinatal HIV Exposed Newborns
- V. Rapid HIV Testing for Newborns
- VI. Care for Mothers and Newborns at Risk for HIV Due to Mother's Partner's HIV + Status

POLICY STATEMENT:

Human immunodeficiency virus (HIV) may be transmitted from mother to infant during the perinatal period. The risk of infection for a neonate born to an HIV-positive mother has been reduced from 25% to less than 2% by the use of currently recommended prenatal antiretroviral therapy and obstetric interventions for women who are aware of HIV infection early in pregnancy.

Rapid HIV testing on labor and delivery can provide an opportunity to reduce mother to child transmission among women who do not receive prenatal care or women who have not had an HIV test. HIV prophylaxis, even when begun during labor and delivery can reduce transmission by as much as 50%. The CDC recommends routine rapid testing for women whose status is unknown unless they decline the test. California Health and Safety Codes require all pregnant women to be offered HIV testing as a routine part of care. If testing was not done during the pregnancy or at delivery, a **rapid** HIV test should be offered postpartum. If the mother is not available for testing, a rapid HIV test can identify perinatally HIV exposed infants who will need prophylaxis and further screening.

RESPONSIBLE PARTY:

UCSD Healthcare providers of prenatal, obstetric, and pediatric and emergency care. Nursing staff on the following units: FMCC, ISCC, L&D, ED.

I. PROCEDURE: HIV TESTING

1. Every pregnant woman will be offered counseling and prenatal HIV testing.
2. Women who are identified as being HIV positive during prenatal screening will be referred to the UCSD Mother, Child & Adolescent HIV Program, 619-543-8080 as soon as possible for management.
3. Women admitted to the hospital without receiving prenatal care will be counseled about reducing the risk of mother to child HIV transmission and screened with a rapid HIV test unless they decline.
4. Women who are known to be at high risk for acquiring HIV (e.g., injection-drug users and partners of injection drug users, women who exchange sex for money or drugs, are sex partners of HIV-infected persons, and women who have had a new or more than one sex partner during this pregnancy will be counseled about HIV transmission and screened with a rapid HIV test unless they decline.

5. Women who do not have prenatal HIV test results available will be counseled about reducing the risk of mother to child HIV transmission and offered a rapid HIV test on labor and delivery. If the delivery is imminent, a rapid HIV test should be provided postpartum unless they decline.
6. For infants whose HIV exposure status is unknown and who are in foster care, the person legally authorized to provide consent should be informed that rapid HIV testing is recommended for infants whose biologic mothers have not been tested.
7. Offering a Rapid HIV Test:
During HIV test counseling in labor, the following information should be given to a woman in a confidential manner:
 - A. HIV can be transmitted from mothers to infants during labor, delivery and breastfeeding; effective interventions can reduce this risk
 - B. Rapid testing is available, effective and the results will permit interventions to protect infant.
 - C. A positive test is preliminary and a confirmatory test will need to be done; however, treatment should be offered immediately and continued until confirmatory results are available.
8. If the patient agrees to the rapid HIV test:
Send one 7ml. red and one 3ml. lavender top tubes to lab
Call Virology/Serology Lab at x 35940;
Lab will call M.D. with results within 2 hrs.
9. If a patient declines an HIV test, this decision should be documented in her medical record.

II. PROCEDURE: MANAGEMENT OF RAPID HIV TEST RESULTS

1. If the HIV test result is negative, inform the patient of the results and no further treatment is necessary.
2. If the HIV test result is preliminary positive and the woman is **not in labor:**
 - A. Discuss the use of antiretroviral prophylaxis to reduce HIV transmission in a confidential manner.
 - B. Refer patient to the UCSD Mother, Child & Adolescent HIV Program as soon as possible to review therapy/method of delivery, infant care and follow up. (Linda Proctor, CNM, pager 290-5458 or Mary Caffery, RN, MSN, pager 290-3118).
3. If the results are positive and the woman is **in labor:**
 - A. Discuss the use of antiretroviral prophylaxis to reduce HIV transmission with the mother in a confidential manner. Confirmatory tests will be run, but results will not be available immediately
 - B. **Treatment:** We recommend the following antiretroviral therapy STAT
Nevirapine 200mg. PO
Zidovudine (AZT) Begin loading dose: Zidovudine 2mg./kg. IV over 1 hour followed by a continuous infusion of 1 mg./kg/hour until delivery. Loading dose will be administered from the zidovudine infusion bag. Zidovudine should be given in a dedicated IV line.
Lamivudine 150mg PO q 12 hours

Alternate regimen:

Zidovudine (AZT): Begin loading dose 2mg./kg. IV over 1 hour followed by a continuous infusion of 1mg./ kg / hour until delivery. Loading dose will be administered from the zidovudine infusion bag. Zidovudine should be given in a dedicated IV line.

C. Postpartum Treatment:

Further treatment should be discussed with UCSD Mother-Child HIV team.

When nevirapine is given a two week "tail" of antiretroviral therapy needs to be offered to reduce the development / persistence of resistant virus.

Continue Zidovudine 300 mg. PO q 12 h. and Lamivudine 150 mg. PO q 12 h.

If HIV test confirmation is negative discontinue treatment.

If HIV test is confirmed positive, review treatment with UCSD Mother-Child HIV team.

- D. Refer patient to the UCSD Mother, Child & Adolescent HIV Program as soon as possible to review therapy/method of delivery, and plan infant care and follow up. (Andrew Hull, M.D., Linda Proctor, CNM, pager 290-5458 or Mary Caffery, RN, MSN, pager 290-3118.)
4. **Method of Delivery for women who have a positive rapid HIV test in labor or are HIV positive and are not receiving HIV treatment**
- If membranes have not ruptured, offer a C-section as a method to reduce HIV transmission. Studies indicate that a C-section **prior** to rupture of membranes can reduce transmission.
 - If the membranes have ruptured less than 4 hours, start medications and expedite c-section.
 - If the membranes have ruptured more than 4 hours, continue treatment and avoid performing any procedure that may increase risk of fetal contact with maternal blood or vaginal secretions.
5. **Precautions: Avoid**
- Artificial rupture of membranes
 - Fetal scalp electrode
 - Intrauterine pressure catheter
 - Fetal scalp pH sampling
 - Episiotomy (if possible)
 - Forceps or vacuum extraction
6. Avoid breastfeeding. See infant care section below.

III. PROCEDURE: HIV TREATMENT FOR HIV POSITIVE WOMEN ON ANTIRETROVIRAL THERAPY DURING PREGNANCY

- Contact** Mother, Child & Adolescent HIV Program as soon as possible to review therapy, lab orders, delivery plan, infant care and follow up. (Andrew Hull M.D. 290-3807 or Mary Caffery, RN, 290-3118).
- Treatment:** Women who are HIV positive will receive HIV treatment during pregnancy, labor and delivery. These medications will be ordered by their obstetric provider and will be administered according to normal hospital practice.
 - L&D Medications:
 - Obtain weight, convert lbs to kg (2.2 lbs = 1 kg.)
 - Begin IV Zidovudine (AZT) infusion during labor in a **dedicated IV line**.
 - Zidovudine Loading Dose: 2mg. /kg. over ONE HOUR followed by
 - Continuous Dose: 1mg/kg of body weight per hour until delivery
 - Ideally, Zidovudine infusion should be run for 4 hours pre-delivery.
 - Other HIV Medications:
 - Continue all other antiretroviral medication as prescribed.
- Method of Delivery for HIV positive women on antiretroviral therapy during pregnancy:**
 - The delivery plan may be individualized according to HIV plasma viral load (RNA PCR) obtained in the third trimester or the most recent RNA PCR results.
 - Patients followed by the UCSD Mother, Child & Adolescent HIV Program who have an HIV plasma viral load, RNA PCR > 1,000 copies may be scheduled for an elective C-section at 38 weeks gestation by Dr. Hull.
 - For a scheduled C-section, IV Zidovudine (AZT) should begin 3 hours before surgery.
 - If the woman presents in active labor and is progressing rapidly, provide intra-partum treatment and deliver vaginally.
 - If cervical dilation is minimal and a long labor is anticipated, the clinician may begin a loading dose of Zidovudine and proceed with the C- section to minimize duration of rupture of membrane and avoid vaginal delivery.
 - Patients followed by the UCSD Mother, Child & Adolescent HIV Program who do not have a scheduled c-section and who are admitted in labor with intact membranes may labor.

3. Rupture of Membranes (ROM)

- ROM \geq 4 hours increases the risk of perinatal HIV transmission and artificial rupture of membranes should be avoided.
- ROM > 4 hours when a patient has a viral load (HIV RNA PCR) < 1,000 copies is unlikely to increase the risk of mother to child HIV transmission.
- ROM is not an indication for a c-section when the HIV RNA PCR is < 1,000 copies.
- If a preterm patient presents with SROM, request immediate consult with Andrew Hull M.D. 290-3807.

4. Precautions:

- A. If labor progresses and membranes are intact, avoid performing any procedure that may increase risk of fetal contact with maternal blood or vaginal secretions, such as
- 1) Artificial rupture of membranes
 - 2) Fetal scalp electrode
 - 3) Intrauterine pressure catheter
 - 4) Fetal scalp pH sampling
 - 5) Episiotomy (if possible)
 - 6) Forceps or vacuum extraction
- B. Avoid breastfeeding.

IV. PROCEDURE: CARE FOR PERINATAL HIV EXPOSED NEWBORNS

1. The pediatric HO working in the ISCC will be called to the delivery and will immediately enter the "HIV Order Set" in CPOE.
2. Cleanse infant of all visible blood within the first 2 hours of life. Then bathe per newborn protocol
3. No breastfeeding. Breastfeeding will be discouraged due to risk of HIV transmission. Feed the infant using iron fortified formula unless otherwise specified by the pediatric provider.
4. Obtain bedside glucose prior to the first feeding; record result date & time in medical record
5. Call the UCSD Mother, Child & Adolescent HIV Program: weekdays (619) 543-8080; nights, weekends or holidays contact: Linda Proctor, CNM, 290-5458 or Mary Caffery, RN, MSN, 290-3118.
6. **Treatment:** Antiretroviral treatment to prevent transmission. **This medication should be administered as soon as possible and within two hours of delivery.**

All HIV exposed infants, 35 weeks or greater, will receive Zidovudine (ZDV/AZT) suspension 10mg./ml at a dose of 2mg./kg./dose PO every six hours for 6 weeks (See order set)
If the infant is NPO, start Zidovudine 1.5 mg./kg/dose IV q 6 hours for a total of 6mg./kg./day.

If the infant is preterm, < 35 weeks gestation give:

Zidovudine 1.5mg./kg./dose IV q 12 hours or 2mg./kg./dose PO every 12 hours.

If gestational age >30 weeks, dosage will advance to Zidovudine q 8 hours at 14 days of age.

If gestational age <30 weeks: dosage will advance to Zidovudine q 8 hours at 28 days of age.

If the mother received oral Nevirapine during labor give the infant:

Zidovudine suspension 10mg./ml at a dose of 2mg./kg./dose every six hours for six weeks and Lamivudine (3TC) 2mg./kg. PO q 12 hours for 7 days.

One single dose of Nevirapine 2mg./ kg./dose PO at 48 hours of age.

If this infant is preterm, review Lamivudine and Nevirapine dosing with pediatric HIV team Rolando Viani M.D. (858-616-2735) or Stephen Spector M.D. (858-616-0909)

7. Labs

Obtain the following labs and send to UCSDMC lab prior to infant discharge. Preferred time is between 24-48 hours of life. Make effort to obtain all venous labs at one draw including study labs if infant is on study. (See separate study orders.) MCHAP nurse will determine preferred draw time based on time of infant's birth and if the infant is on a study.

- HIV DNA PCR within 48 hours of birth. (1.5 ml minimum in lavender top tube). Do not draw from Friday noon - Sunday noon as this is sent out lab that is sent ambient M-F. This does not have to be drawn prior to starting AZT. Do not discharge baby prior to obtaining this lab.
- CBC with diff and platelets.

5. Follow-up

- A. Families will be given an appointment for follow up in the UCSD Pediatric Infectious Disease Clinic. These appointments will be scheduled prior to discharge by the Pediatric ID staff.
- B. The discharging healthcare provider will be responsible to write a prescription for 6 weeks of AZT and other HIV medications prior to discharge. Families will be given instruction on medications.
- C. Families will be referred to a primary care provider for well infant care.

V. PROCEDURE: RAPID HIV TESTING FOR NEWBORNS

1. Inform parent(s)/caregiver that HIV can be transmitted from mothers to infants during labor, delivery and breastfeeding; and that effective treatments can reduce this risk.
2. Explain that rapid HIV testing is available, effective and the results will permit interventions to protect infant.
3. Clarify that a positive test is preliminary and a confirmatory test will need to be done; however, treatment should be offered immediately and continued until confirmatory results are available.
4. If the parent agrees to the rapid HIV test:
Send one ml. lavender top tube to lab.
Call Virology/Serology Lab at x35940.
Lab will call M.D. with results within 2 hours.
5. If the test result is positive, page a Pediatric HIV Clinician: Rolando Viani, M.D. (858-616-2735) or Stephen A. Spector, M.D. 858 535-0877 immediately.

VI. PROCEDURE: CARE FOR MOTHERS AND NEWBORNS AT RISK FOR HIV DUE TO MOTHER'S PARTNER'S HIV+ STATUS

1. Offer rapid HIV test and treatment to mother with a positive rapid HIV test as described.
2. Contact Andrew Hull, M.D., 290-3807, Mary Caffery, RN, MSN, 290-3118 or pediatric HIV clinicians: Rolando Viani, M.D. (858-616-2735), Stephen A. Spector, M.D. (858-616-0909) or Jennifer Blanchard, M.D. (290-4333) to review risk history, method of delivery, prophylaxis and method of infant feeding.

REFERENCES:

Hauth, J. et al. ed. *Guidelines for Perinatal Care Fifth Edition*. American Academy of Pediatrics and American College of Obstetricians and Gynecologists. 2002.

Pickering LK, ed. *2006 Red Book: Report of the Committee on Infectious Diseases*. 27th ed. Elk Grove Village, IL: American Academy of Pediatrics.

Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant Women in Health-Care Settings, MMWR September 22, 2006 / 55(RR14);1-17.

Public Health Service Task Force. 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, November 2, 2007, <http://aidsinfo.nih.gov/guidelines/perinatal/perinata> Updated yearly.

National HIV/AIDS Perinatal HIV Consultation and Referral Service 24 hr Hotline: 1-888-448-8765.