

HIV IN PREGNANCY FACT SHEET

- **The rate of HIV infection is increasing in women, particularly women of childbearing age.**
- **Since July 1995, the Public Health Service has recommended universal prenatal HIV counseling and HIV testing with consent for all pregnant women in the U.S.**
- **With appropriate HIV treatment in pregnancy, the risk of transmission from the mother to the baby can be drastically reduced. In a US study since 1990, transmission was observed in 20% of women with HIV infection who received no antiretroviral treatment during pregnancy; 10.4% who received zidovudine (AZT) alone; 3.8% who received combination therapy without protease inhibitors; and 1.2% who received combination therapy with protease inhibitors.**
- **Offering routine HIV testing during pregnancy is especially important in Alabama due to our rising incidence of HIV in women of childbearing years.**
- **Remember-you can't tell who has HIV by looking at them.**
- **Many people (about 1 out of 3) who are HIV positive do not know that they or their partners have HIV.**
- **Recent reports support that HIV spread through heterosexual sex is the fastest rising type of transmission in women, including in Alabama.**
- **Domestic Violence frequently begins or intensifies during pregnancy, and there is a strong association between Domestic Violence and risk for HIV for women. The statewide hotline number for Domestic Violence Programs is: 1-800-650-6522.**
- **The number of new AIDS cases is increasing faster in the South than in any other part of the country.**

HIV EPIDEMIOLOGY IN ALABAMA

**Reference: HIV/AIDS IN ALABAMA
An Update from the Alabama Department of Public Health
May 2002**

- **From 1982 to December 2001, there have been a cumulative total of 12,386 people infected with HIV/AIDS in the state.**
- **The number of new HIV infections and AIDS cases are increasing among women in the US. Of all the HIV positive women, 41% reported they were exposed through heterosexual contact.**
- **During 2001 in Alabama, females made up more than 25.5% of AIDS cases and approximately 40% of new HIV infections.**
- **The incidence of HIV infection in women of childbearing age in Alabama is increasing. For example: In 1991, 15.2% of the newly diagnosed HIV cases that were reported were in females age 15-44. In 2001, 28.1% of the newly diagnosed HIV cases that were reported were in females aged 15-44. Of these females age 15-44 diagnosed in 2001, 77.5% were African-American and 22.1% were white females.**
- **Unequal economic and social power between genders may make women more vulnerable to unsafe sexual practices and sexual exploitation. There is a strong association between Domestic Violence and the risk of HIV infection in women. The statewide Domestic Violence hotline number in Alabama is 1-800-650-6522.**
- **Since 1982 there have been a cumulative total of 121 pediatric cases infected with HIV/AIDS in Alabama.**
- **By ADPH estimates, since 1999 there have been 136 infants born to HIV positive mothers in Alabama. Three of these infants have been HIV infected. These figures are through part of 2001. There have been more HIV infected infants born recently, although these numbers are not yet available in the ADPH reports.**

SUMMARY OF HIV GUIDELINES IN PREGNANCY

Reference: (<http://www.aidsinfo.nih.gov/guidelines/>): U.S. Public Health Service Task Force

Recommendations for the Use of Antiretroviral Drugs in Pregnant Women Infected with HIV-1 for Maternal Health and for Reducing Perinatal HIV-1 Transmission in the United States (August 30, 2002 update)

RECOMMENDATIONS CHANGE QUICKLY: SEE THE WEBSITE ABOVE FOR UPDATES AND FURTHER INFORMATION

PRINCIPLES:

All pregnant women should be routinely offered HIV testing in order to determine if they are infected with HIV.

All HIV-infected pregnant women should be offered anti-retroviral therapy (ART) in order to decrease the risk of perinatal transmission. This recommendation is based on the consistent findings that the risk of perinatal transmission increases with increasing maternal HIV RNA levels, that transmission rates are below 2% among women receiving highly active ART, and that the use of multiple agents minimizes the potential for the development of resistance.

All HIV positive pregnant women are best served in consultation with experienced HIV practitioners. Evolving new therapies of HIV infection in pregnancy require expertise in managing the antiretroviral medications, the metabolic toxicities that may arise during treatment, and antiretroviral resistance. These linkages with experienced HIV providers are crucial during pregnancy.

All hospitals in Alabama with emergency departments and delivery suites where women may present in active labor should have intravenous ZDV (zidovudine, AZT, Retrovir) available for prophylaxis against perinatal HIV transmission. (See the full text on the Website or consult with an HIV specialist for alternative intrapartum and postpartum regimens in the case of women with no HIV care during pregnancy).

All hospitals with newborn nurseries should have pediatric ZDV suspension on hand for administration to infants of HIV positive mothers beginning at 8-12 hours after birth.

A new rapid HIV antibody test (OraQuick by Abbott) is now available to clinical laboratories. HIV antibodies are detected within 20 minutes. This may be a very valuable tool for optimizing management of pregnant women whose HIV status is not known.

Failure to provide appropriate medication during delivery to pregnant women with known HIV infection and their exposed infants is a medical legal risk.

Highly effective antiretroviral treatment should be offered to all pregnant women to decrease the transmission risk. Most practitioners would include ZDV as one of these medications. Treatment recommendations change quickly, so see the above website for further discussion and updates. ***Consultation with an experienced HIV treating physician is critical.***

Because the long-term impact of combination ART on fetus/infant is unknown, children exposed to ART need follow-up through adulthood for late potential toxicities.

For women known to be at high risk for acquiring HIV during pregnancy, consideration should be given to offer repeat testing in the third trimester with ELISA, Western Blot, and HIV RNA/DNA PCR, preferably before 36 weeks of gestation. Also, women who develop a “mononucleosis like syndrome” or other symptoms that could be associated with HIV seroconversion syndrome, or develop other sexually transmitted diseases during pregnancy should be considered for retesting. Infants of these women should be followed for possible HIV infection extremely closely after birth, even if their HIV test results in pregnancy are negative. (There have been infants in Alabama whose mother tested HIV negative early in pregnancy, the mother became infected later in pregnancy and was not retested, and the infants became infected).

HIV positive women and their infants should be provided information about participation in HIV clinical trials through the Adult or Pediatric AIDS Clinical Trials Group funded by NIH. See resources guide below.

Goals of therapy of HIV infected pregnant women:

- To effectively treat the woman’s HIV infection
- To reduce the risk of perinatal HIV transmission
- To provide the necessary social support services and adherence education for successful treatment
- To link the mother and her family into a health care system for long term care

Initial assessment of HIV positive pregnant women includes:

- Confirmation of HIV infection by documenting a second positive HIV antibody confirmatory test on a second blood specimen drawn at a separate time
- Co-management by an experienced HIV provider and the obstetric personnel
- History of symptoms; duration of HIV infection; hospitalizations for therapy; immunizations; immune status
- Documentation of prior and current antiretroviral therapy
- Supportive care to enhance adherence to a complex medical regimen
- Risk for disease progression as determined by the level of plasma HIV RNA (viral load), and evaluation of the degree of existing immunodeficiency determined by the CD4 count
- Baseline CBC with differential, renal and liver function tests
- Determination of maternal status of gonorrhea, syphilis, chlamydia, hepatitis B and C, and TB
- Counseling: effect of pregnancy on HIV; effect of HIV on pregnancy – perinatal transmission, therapy, mode of delivery

Recommendations for Antiretroviral Chemoprophylaxis to Reduce Perinatal HIV Transmission, for Use In Consultation with an Experienced HIV Provider:

- Highly active antiretroviral treatment should be discussed and offered to all HIV infected pregnant women to reduce the risk of perinatal transmission, to maximally suppress replication, and to minimize the risk of resistant virus.
- Many experienced HIV practitioners would include ZDV as one of the components of treatment. Women not on ZDV should still receive the intrapartum component, and their infants should receive the postpartum component of the ZDV protocol-see Table I. For HIV-infected women in labor who have had no prior therapy, several effective regimens are available. See the full Website text for further discussion.
- Women who are in the first trimester of pregnancy, who have not received prior antiretroviral therapy, may consider delaying initiation of therapy until after 10-12 weeks gestation.
- 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.
- The following drugs or combinations are **not** recommended in pregnancy: 1) monotherapy with ZDV due to suboptimal antiretroviral activity; 2) combination treatment with ddI (Videx)/d4T (Zerit) due to mitochondrial toxicity including lactic acidosis; 3) ZDV(Retrovir)/d4T (Zerit) due to antiretroviral activity antagonism; and 4) any regimen containing efavirenz (Sustiva) due to teratogenicity.
- HIV medications have potential side effects requiring monitoring . Pregnant patients on protease inhibitors should have glucose levels closely monitored. Pregnant patients receiving nucleoside analogue drugs should have hepatic enzymes and electrolytes assessed more frequently during the last trimester of pregnancy. See the full text on the Website for further discussion.
- HIV RNA levels should be monitored at least every three to four months, or approximately once each trimester. In addition, HIV RNA levels should be evaluated at 34-36 weeks of gestation to allow discussion of options for mode of delivery based on HIV RNA results.
- Resistance testing should be done for the same indications as in nonpregnant persons. In addition, The International AIDS Society-USA Panel and Euro Guidelines Group for HIV Resistance recommend that all pregnant women with detectable HIV RNA levels have resistance testing performed, even if they are antiretroviral naïve, to try and maximize the response to antiretrovirals in pregnancy. Resistance testing should be done in consultation with an experienced HIV provider.
- **Note:** Discussion of treatment options and recommendations should be noncoercive, and the final decision regarding the use of antiretroviral drugs is the responsibility of the woman. A decision to not accept treatment with ZDV or other drugs should not result in punitive action or denial of care. Use of ZDV should not be denied to a woman who wishes to minimize exposure of the fetus to other antiretroviral drugs and who therefore chooses to receive only ZDV during pregnancy to reduce the risk for perinatal transmission.

Mode of delivery:

- HIV positive pregnant women with viral load $> 1000/\text{mm}^3$ (determined at 34-36 weeks) will receive counseling regarding the potential risks and benefits of elective cesarean delivery at 38 weeks EGA. Prophylactic intravenous ZDV should begin 3 hours prior to cesarean delivery. All current oral antiviral therapy should be continued prior to and following delivery.
- Obstetrical management should avoid invasive monitoring, avoid the use of instruments to assist delivery, and avoid a prolonged interval between rupture of membranes and delivery.

For all HIV infected women in labor

- At first sign of active labor, administer IV ZDV with a loading dose of 2mg/kg over 1 hour, followed by 1mg/kg/hr until cord is clamped.
- All current oral antiviral therapy should be continued during labor and post-partum.
- For HIV-infected women in labor who have had no prior therapy, several effective regimens are available. See the full Website text for further discussion.

Post-delivery recommendations:

- Coordinate visits of both mother and infant with HIV specialty providers within 2 weeks of life.
- Assess the need for changes in therapy. Ensure that arrangements have been made for ongoing HIV care with an experienced provider. Needed support services should be identified and provided if at all possible.

INFANT CARE

Because this field is changing so rapidly, referral/consultation with a specialist in the care of HIV-exposed or infected infants is essential for optimal management of infected or exposed infants. Referral of infected infants is crucial.

Follow-up Care for Infants Born to Mothers with HIV Infection

- The Public Health Service recommends that documentation of *in utero* exposure to anti-HIV drugs become part of the permanent medical record of each affected child because of the yet unknown potential late toxicities of this preventive therapy. Because of reports of possible toxicities in infants born to HIV infected women who received ART including mitochondrial disorders, and theoretical concerns of carcinogenicity, it is recommended that these infants be referred for long-term follow-up continuing into adulthood, with yearly physicals. Most experts would include gynecologic exams with PAP smears for adolescent females, especially once they are sexually active.
- No breastfeeding.

- The six-week neonatal ZDV regimen (2mg/kg/dose every 6 hrs, beginning by 12 hours of life) should be discussed with the mother prior to delivery and offered for the infant. Treatment should begin within 12 hours of life.
- The mother should leave the hospital with the full amount of ZDV needed for 6 weeks of therapy if possible.
- Consideration of combination antiretroviral therapy for infants of mothers with advanced disease, or other significant risk factors for perinatal transmission, makes consultation essential with a pediatric HIV disease specialist as soon as possible.
- Within 48 hours after birth, obtain the following labs: HIV DNA PCR on peripheral blood, CBC with differential, ALT and glucose. A negative or undetectable RNA PCR is not sufficient to rule out HIV infection (but an HIV RNA PCR can be useful in making an early diagnosis of infection in some high risk situations-consult with an HIV pediatric specialist).
- TMP-SMX for PCP prophylaxis should be started at 6 weeks of age for all infants exposed to HIV, and continued until HIV infection is reasonably excluded. Preferred dosage regimen: 150mg TMP/m²/day divided doses every 12 hours for 3 consecutive days per week.
- Refer the infant for follow-up care to an HIV specialist within 2 weeks or less.
- Determination of HIV-infection status with testing at 1-2 days, 2 weeks, 6-8 weeks, and 4-6 months of age.

Additional Considerations in Management of Infants Born to Mothers Who Have Received No Antiretroviral Therapy During Pregnancy or Intrapartum:

- The ZDV chemoprophylaxis regimen (see above) should be started as soon as possible after delivery-preferably within 6-12 hours of birth if possible, or immediately upon recognition that exposure occurred. **Chemoprophylaxis is more likely to be effective the sooner it is started.**
- Many experts believe that prophylaxis with 2 or 3 antiretroviral agents is advantageous in this situation, and the recommendations are changing quickly; **consultation with an expert in pediatric HIV infection is crucial.**

Follow-up care for Infants Born to Mothers At Increased Risk of Acquiring HIV Infection During Pregnancy:

For infants born to a mother who is at increased risk of acquiring HIV infection during pregnancy the following labs should be performed in the nursery after birth, at 2 weeks, 4 weeks, and 6 weeks of age: Elisa, Western Blot, and HIV RNA and DNA PCR. These infants should be referred for care by a pediatrician with expertise in the diagnosis and treatment of HIV infection in infants. Mothers at high risk for acquisition of HIV infection should be advised not to breastfeed their infants.

PRECONCEPTUAL CARE FOR HIV INFECTED WOMEN OF CHILDBEARING AGE

- Selection of effective and appropriate contraceptive methods to reduce the likelihood of unintended pregnancy.
- Education and counseling about perinatal transmission risks and strategies to reduce those risks and potential effects of HIV or treatment on pregnancy course and outcomes.
- Initiation or modification of antiretroviral therapy prior to conception in order to: avoid agents with reproductive toxicity for the developing fetus, choose agents effective in reducing the risk of perinatal HIV transmission, attain a stable and maximally suppressed viral load, and evaluate and control for therapy associated side effects.
- Evaluation of opportunistic infections and initiation of appropriate prophylaxis and immunizations.
- Optimization of maternal nutritional status.
- Institution of standard recommendations for preconception evaluation and management.
- Screening for maternal psychological, substance abuse disorders, and/or domestic violence.
- Planning for perinatal OB and HIV consultation if desired or indicated.

TABLE 1.

“AZT Protocol”

Zidovudine (ZDV)* Chemoprophylaxis Regimen

Time of ZDV Administration	Regimen
Antepartum	(Oral administration of 300 mg ZDV BID daily, initiated at 14-34 weeks gestation and continued throughout the pregnancy) NOTE: Highly active ART should be offered. ZDV monotherapy is no longer recommended. Many practitioners would include ZDV as one component when feasible. See guidelines for further discussion.
Intrapartum	During labor, intravenous administration of ZDV in a one-hour initial dose of 2 mg/kg body weight, followed by a continuous infusion of 1 mg/kg/body weight/hour until delivery.
Elective C-Section Cases	Begin the ZDV infusion three hours prior to delivery
Postpartum	Oral administration of ZDV to the newborn (ZDV syrup at 2 mg/kg body weight/dose every six hours) for the first six weeks of life, beginning at 8-12 hours after birth. (Note: intravenous dosage for infants who cannot tolerate oral intake is 1.5 mg/kg body weight intravenously every six hours.) There is no published data on the ZDV dosing in preterm infants; however appropriate dosing is under study. Consult with an HIV pediatric specialist for the recommended dose, and see website for further discussion.

*Zidovudine =ZDV=AZT=Retrovir

FURTHER RESOURCES FOR HIV CARE IN PREGNANCY

For obstetrical care questions:

UAB Department of OB/GYN
Division of Maternal-Fetal Medicine
Alice Goepfert, M.D.
Or Maternal Fetal Medicine Physician on call
Birmingham, AL
(205) 934-MIST

UAB Department of OB/GYN
Division of Maternal-Fetal Medicine
Patrick S. Ramsey, M.D.
Birmingham, AL
(205) 934-MIST
(205) 975-0515

UAB Obstetrical Complications Clinic
Gail Williams, CRNP
Birmingham, AL
(205) 934-2170

UAB Family Clinic
Barbara Corley, CRNP
Birmingham, AL
(205) 939-9400

The University of South Alabama Family Specialty Clinic
Julie Bebawy, Program Coordinator
Mobile, AL
251-405-5107

For HIV exposed or infected infants:

UAB Family Clinic,
Marsha Sturdevant, MD, Director
Birmingham, AL (205) 939-9400
Montgomery, AL (334) 284-5211
Or UAB On-Call Pediatric Infectious Diseases Physician
(205) 934-MIST

University of South Alabama Family Specialty Clinic
On-Call Pediatric Infectious Disease Physician or
Julie Bebawy, Program Coordinator
Mobile, AL
(251) 405-5126 or (251) 405-5107

Perinatal and Pediatric AIDS Clinical Trials Group Protocols

UAB, Pediatric AIDS Clinical Trials Unit
CHB304, Children's Hospital
1600 6th Avenue South, Birmingham, AL 35233
Contacts: Terry Byars, RN or Newana Beatty, LPN
205-996-7831 or 205-934-2441

Perinatal and Pediatric AIDS Clinical Trials Group Protocols continued

USA Pediatric AIDS Clinical Trials Unit
1504 Springhill Ave., Room 5227
Mobile, AL 36604
Contact: Terria Moore, RN
(251) 434-3584

***HIV Clinics in Alabama, for treatment of adult or adolescent patients, including
For HIV treatment questions for pregnant patients:***

AIDS Service Center
Anniston, AL 256-832-0100

Central Alabama Comprehensive Health Care
Auburn, AL 334-502-4181

Davis Clinic, AIDS Action Coalition
Huntsville, AL 256-536-4700

HOPE Clinic
Tuscaloosa, AL 205-349-3250

Franklin Memorial Primary Health Center Title III Clinic
Mobile, AL 251-690-8158

Mobile County Health Department Title III Clinic
Mobile, AL 251-690-8158

Montgomery AIDS Outreach
Montgomery, with rural clinics in Clayton, Georgiana, Troy, Tuskegee, Pineapple,
Selma, and a full-time clinic in Dothan
334-280-3349 Montgomery (Copeland Care Clinic)
334-673-0494 MAO-Dothan
1-800-510-4704

St. George's Clinic
Cooper Green Hospital
Birmingham, AL (205) 930-3282

UAB School of Medicine
Montgomery Internal Medicine Residency Program
Wick Many MD, Montgomery, AL
(334) 284-5211 or 1-888-467-0765

UAB 1917 Outpatient Clinic
Laura Bachmann, MD, MPH, or
Angela Rivers, RN
Birmingham, AL
(205) 934-6684

UAB Adolescent Medicine
Marsha Sturdevant, MD, Director
Birmingham, AL (205) 939-9400 or (205) 934-MIST
Montgomery, AL (334) 405-5107

UAB Family Clinic
Marsha Sturdevant, MD, Director
Birmingham, AL (205) 939-9400 or 1-888-441-3767
Montgomery, AL (334) 284-5211

USA Family Specialty Clinic
Julie Bebawy, Program Coordinator
Mobile, AL
(251) 405-5107

On-line and Print Resources
For further information

Web sites for further information:

Standards of Care are rapidly changing, and up-to-date recommendations are available on the web:

AIDS INFO: A service of the US Department of Health and Human Services is a web site that continually updates all HIV treatment guidelines. **Adult and Adolescent Guidelines, Pediatric Guidelines, and Perinatal Guidelines are all available there.** Visit the website for the full text of the current guidelines: 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.

<http://www.aidsinfo.nih.gov/guidelines/>

Alabama Department of Public Health Website periodically updates summaries of recommendations and statewide resources. It also has links to many other HIV treatment and care resources.

<http://www.adph.org>

American College of Obstetricians and Gynecologists

www.acog.org

Helpline Numbers in Alabama for HIV

State Health Department Helpline-
1-800-228-0469

AIDS Alabama Helpline
1-800-592-2437

Center for Disease Control and Prevention Helpline
1-800-342-2437

Other Resources

Domestic Violence Statewide Hotline Number-
1-800-650-6522

Alabama Coalition Against Domestic Violence
(334) 832-4842

Recent review article:

Management of Human Immunodeficiency Virus Infections in Pregnancy: D. Heather Watts, MD, New England Journal of Medicine, Vol. 346, No. 24, pg. 1879-1889, June 13, 2002.

The Governor of Alabama's HIV Commission for Children, Youth, and Adults
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