

HIV & Pregnancy

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PREGNANCY

- For women in general, pregnancy means a unique and complex experience, composed of ambivalent experiences such as happiness/sadness and safety/insecurity
Bondas, 2002; Bondas & Eriksson, 2001; Loren Guerrero & Millan Barreiro, 2011
- In the case of pregnant women living with HIV, ambivalence was also accompanied by anxiety and guilt because of the possibility of HIV transmission to the baby
de Faria & Piccinini, 2010
- Despite prophylactic treatment, which can significantly reduce infection risk and provide reassurance, pregnant women remained preoccupied with the potential for maternal-child transmission
Brashers, 2001

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HIV IN PREGNANCY

Objectives:

- ✓ Identify and discuss the rate of maternal-infant HIV transmission; mode of transmission; risk factors that influence transmission; and effects of pregnancy on HIV disease
- ✓ Describe the rationale for perinatal HIV testing, the type of testing available and legal requirements for offering HIV tests to pregnant women
- ✓ Define strategies to reduce perinatal transmission
- ✓ Define routine care for HIV positive pregnant women
- ✓ Describe the management of exposed infants and diagnostic screening tests for HIV exposed newborns
- ✓ List nursing interventions which can reduce intrapartum transmission of HIV to the infant during labor and delivery

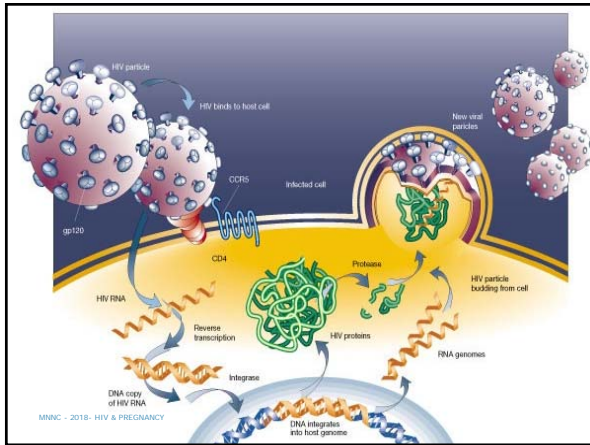
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The number of HIV-infected women giving birth in the United States and across the globe is increasing

Despite reductions in perinatal HIV transmission in the United States, gaps in HIV diagnosis and treatment persist

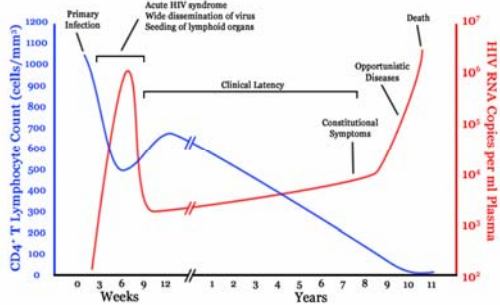


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HIV Disease Progression Without Treatment



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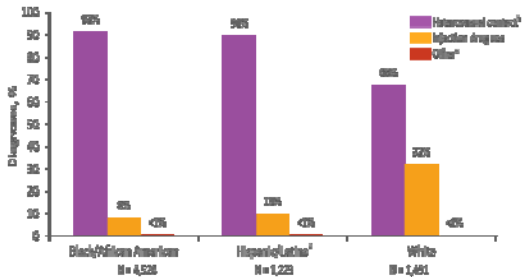
Exposure Risks

(average, per episode, involving HIV-infected source patient)

Percutaneous (blood) ¹	0.3%
Mucocutaneous (blood) ²	0.09%
Receptive anal intercourse ³	1%
Insertive anal intercourse ⁴	0.06%
Receptive vaginal intercourse ⁵	0.1 – 0.2%
Insertive vaginal intercourse ⁶	0.03 – 0.14%
Receptive oral (male) ⁷	0.06%
Female-female orogenital ⁸	4 case reports
IDU needle sharing ⁹	0.67%
Mother to child (no prophylaxis) ¹⁰	24%

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DIAGNOSES OF HIV INFECTION AMONG FEMALE ADULTS AND ADOLESCENTS, BY RACE/ETHNICITY AND TRANSMISSION CATEGORY, 2015—UNITED STATES AND 6 DEPENDENT AREAS



Note: Data include persons with a diagnosis of HIV infection regardless of stage of disease at diagnosis. Data for the year 2015 are preliminary and based on 6 months reporting delay. Data have been statistically adjusted to account for missing transmission category.
¹Unintentional contact can be of any race.
²Includes heterosexual contact with a partner known to have, or to be at high risk for, HIV infection.
³Includes blood transfusion, perinatal exposure, and risk factor not reported or not identified.

I TEST 2 LIVES



CDC /ACOG Recommendations:
Routine HIV Screening for Pregnant Women

- **All** pregnant women should be tested for HIV infection
- **All** health care providers should recommend HIV testing to all of their pregnant patients, as early as possible
- If a patient refuses an HIV test, it should be **re-offered** at regular intervals throughout the pregnancy

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Recommendations for HIV Screening of Pregnant Women

- Retesting in the 3rd trimester, recommended; preferably before 36 weeks for women known to be at high risk for acquiring HIV:
 - HIV+ partner, new partner,
 - STI, substance abuse,
 - High risk community
- Rapid HIV testing should be offered to all women who present in labor with no HIV test results



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✓ Getting a test is the only way to know if you have HIV

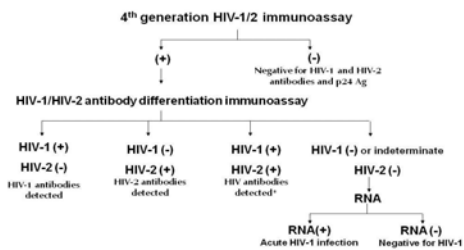


- ✓ Screening test
- +
- ✓ Confirmatory test



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Recommended Testing Algorithm



Recommendations: Diagnostic Laboratory Testing for HIV Infection in the United States 2014, CDC.gov

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Major issue: Inadequate HIV Testing in Pregnancy

- An estimated 20-30% of US women are not tested for HIV during pregnancy
- Another 15-20% receive no or minimal prenatal care, thereby allowing for potential newborn transmission

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Why Aren't All Pregnant Women Tested for HIV?

- Late entry or no prenatal care
- Patient does not feel she is at risk
- Provider does not strongly recommend testing to all women
- Language / cultural barriers

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NURSING ROLE

- Locate HIV test results
- Offer / Encourage / Normalize HIV testing
- Track results and facilitate appropriate interventions
- Maintain patient confidentiality
- Provide education and optimism re: interventions and treatment

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Acute HIV Infection in Pregnancy

Symptoms

- ✓ Fever, myalgia, headache
 - ✓ Rash, often erythematous maculopapular urticaria
 - ✓ Fatigue, anorexia
 - ✓ Pharyngitis
 - ✓ Generalized lymphadenopathy
- Use HIV RNA PCR as well as the HIV antibody to diagnose

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Acute HIV Infection in Pregnancy

Increased risk of transmission to the fetus due to:
High viral titers in plasma and genital fluid
Absence of immune factors that may neutralize infection

Treatment should include interventions to reduce perinatal HIV transmission

- Appropriate antiretroviral treatment / prophylaxis
- Consideration of elective Cesarean delivery

Consult with HIV expert

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A Diagnosis of HIV during Pregnancy or Labor

Is difficult
Yet creates opportunity
to successfully improve
maternal health and
reduce transmission



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Impact of Pregnancy on HIV Disease

- ❑ Pregnant women experience a decline in CD-4 count, r/t hemodilution, lowest: 7th month
- ❑ Viral load/ RNA PCR stable in untreated patients
- ❑ *Pregnancy does **not** appear to significantly accelerate HIV disease progression, time to AIDS diagnosis or maternal survival*

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(French 1998, Allegro 1997, Tai et al 2007)

Adverse Pregnancy Outcomes and Relationship to Untreated HIV Infection

Adverse Pregnancy Outcome	Relationship to HIV Infection
Stillbirth	Evidence of increased risk in <u>developing</u> countries
Perinatal/infant mortality	Evidence of increased risk in <u>developing</u> countries
Spontaneous abortion	Evidence of possible increased risk
Group B Strep	Evidence of possible increased risk
Low birth weight (<2500g)	Evidence of possible increased risk, especially with more advanced disease
Preterm delivery	Evidence of possible increased risk
Intrauterine growth restriction	Evidence of possible increased risk

A Guide to the Clinical Care of Women with HIV 2013, Anderson, HRSA

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Effect of HIV and Pregnancy on Other Infections

Both HIV infection and pregnancy may affect the natural history, presentation, treatment, or significance of a number of infections, thereby causing complications in pregnancy or perinatal infection

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HIV INFECTION AND PREGNANCY MAY AFFECT THE NATURAL HISTORY, PRESENTATION, TREATMENT, OR SIGNIFICANCE OF INFECTIONS, CAUSING COMPLICATIONS IN PREGNANCY OR PERINATAL INFECTION

Vulvovaginal Candidiasis > prevalence, persistence, severity

Bacterial Vaginosis (BV)

- > preterm labor and birth, premature rupture of membranes, LBW,
- > chorioamnionitis, amniotic fluid infection, endometritis, and HIV transmission
- > >prevalence, persistence, severity of BV, which > as CD4+ declines

Herpes HSV shedding, >frequent, severe, prolonged > transmission more common when CD4 declines, with no treatment, can require C/S

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HIV + and Other Infections: Screen & Treat

Syphilis Alters manifestation, serologic response, response to treatment, fetus

Hepatitis B Hepatitis B viremia, increased risk for liver disease

Hepatitis C Co-infection w HIV > risk faster progression > transmission risk for HIV

Pregnancy does not influence course of Hep C

Tuberculosis Reactivation with disease progression

Cytomegalovirus Reactivation with disease progression

Toxoplasmosis Reactivation with disease progression

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Mother to Child HIV Transmission

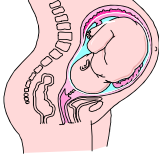



- **Rates**
Without treatment 15-33%
With treatment <1%
- **Timing**
Intrauterine 20%
Intrapartum 80%
Post-Partum/
Breastfeeding 14-29%

The exact mechanism of mother-to-child transmission of HIV remains unknown

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In Utero Transmission

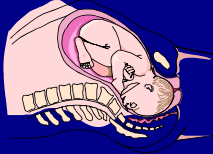



Placental breaks
 Maternal-fetal transfusion
 HIV or other infection of placenta

Interventions: Treatment,
 Reduce STI, smoking

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Intrapartum Transmission



Maternal virus load

- blood (cell-associated, cell-free)
- cervicovaginal secretions

Duration of ruptured membranes

Infant exposure to blood

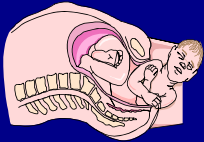
- mucous membranes, swallowing

Trauma

Maternal-fetal transfusion

Placenta - abruption

- chorioamnionitis
- co-infections



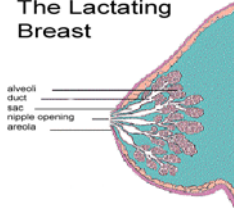
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Breastfeeding Transmission

- Breakdown of skin barrier
- Intercurrent infections (mastitis)
- Maternal plasma/milk viral load
- Primary infection in mother
- Mixed feedings
- Early introduction of solids
- Duration of breastfeeding

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The Lactating Breast

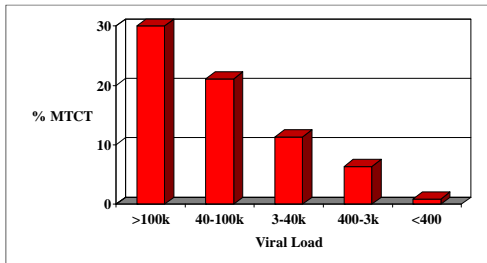


Breastfeeding and Transmission

- ✓ Among women not receiving treatment an additional 15–29% of infants will be infected if there is breastfeeding
HIV is found in breast milk, both cell-associated and cell-free
- ✓ Recommendations:
 - ✓ Women with HIV infection in the United States should not breastfeed
 - ✓ Women considering breastfeeding should know their HIV status
- ✓ Consider cultural norms in supporting the non-breastfeeding woman with HIV

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Higher Viral Load is Associated with Increased Risk of Maternal/Infant HIV Transmission



WITS STUDY – VERTICAL TRANSMISSION
Prospective Cohort Study 1990-1999

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Factors Associated with Maternal Infant HIV Transmission

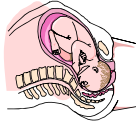
- Plasma and genital track HIV Viral load
- Clinical stage: primary infection & advanced maternal disease
- Hepatitis A, B, C
- Substance abuse & cigarette smoking
- Sexually transmitted infections, including bacterial vaginitis, HSV
- Unprotected sex

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A Guide to the Clinical Care of Women with HIV, Anderson, 2013, HRSA

Obstetrical Factors Associated with Increased Risk of Maternal Transmission

- ✓ Duration of ruptured membranes > 4 hours
- ✓ Chorioamnionitis
- ✓ Placental abruption; maternal/infant bleed
- ✓ Invasive fetal monitoring
- ✓ Vaginal delivery vs. C-section



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Treatment of HIV Infection During Pregnancy

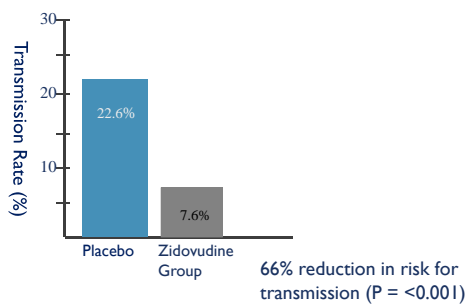
All pregnant HIV infected women should be offered highly active antiretroviral therapy to:

- Maximally suppress viral replication
- Minimize risk of development of resistant virus
- Provide pre-exposure and post exposure prophylaxis for infant

US Public Health Services Guidelines, 11/2017

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Evidence for the Prevention of HIV Transmission: ACTG 076 (1994)



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Antiretroviral Agents for HIV

Stages of HIV replication

- HIV enters a CD4 cell.
- HIV is a retrovirus, meaning that its genetic information is stored on single-stranded RNA, instead of the double-stranded DNA found in most organisms.
- HIV RNA enters the nucleus of the CD4 cell and reverse itself into the cell's DNA. HIV DNA then instructs the cell to make many copies of the original virus.
- New virus particles are assembled and leave the cell, ready to infect other CD4 cells.

Targeting HIV Replication

Fusion and Entry inhibitors
Entry inhibitors work outside the cell. They prevent HIV from entering the CD4 cell by blocking binding or fusion of HIV with the CD4 cell membrane. If HIV cannot enter the CD4 cell, it is unable to replicate.

Non-nucleoside reverse transcriptase inhibitors
Non-nucleoside reverse transcriptase inhibitors bind to reverse transcriptase and inhibit the enzyme, stopping HIV replication by preventing formation of HIV DNA. These drugs act in a completely different way to nucleoside/nucleotide analogues.

Nucleoside/Nucleotide analogues
Nucleoside/nucleotide analogues act as false substrates for reverse transcriptase, causing chain termination. The resulting DNA is incomplete and prevents HIV replication.

Integrase inhibitors
Integrase inhibitors block the integration of HIV and cell DNA. This process prevents HIV replication.

Protease inhibitors
Protease inhibitors work at the last stage of the HIV replication cycle. They prevent HIV from being successfully assembled and released from the infected CD4 cell.

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Use of HIV Treatment in Pregnancy “Competing” Issues

SAFETY EFFICACY FOR MOTHER | **SAFETY FOR BABY** | **REDUCE TRANSMISSION**

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Suppression of HIV RNA to undetectable levels should be achieved as rapidly as possible in pregnancy.

Multiple factors must be considered when choosing an antiretroviral (ARV) drug regimen for a pregnant woman, including comorbidities, convenience, adverse effects, drug interactions, resistance testing results, pharmacokinetics (PK), and experience with use in pregnancy

“Prescribe what she will take”
Deb Cohan, MD

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HIV-RNA level and timing of ART initiation have been independently associated with perinatal transmission

Acute HIV infection in pregnancy -> pursue strategies to accelerate viral decline

Rate viral decline slower in acute HIV infection than chronic

The perinatal transmission rate

- 0.2% for women starting ART before conception
- 0.4% First trimester
- 0.9% second Trimester
- 2.2% third trimester (respectively).

Regardless of when ART was initiated, the perinatal transmission rate was higher for women with viral loads of 50 to 400 copies/mL near delivery than for those with <50 copies/mL.

French Perinatal Cohort - Mandelbrot CID 2015

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Adherence Issues

- Denial and fear of HIV infection
- Misinformation
- Distrust of the medical establishment
- Disclosure issues
- Lack of familial and social support
- Unstructured and chaotic lifestyle
- Pill burden
- Lack of belief in the effectiveness of ARV
- Low self-esteem
- Depression
- Alcohol and substance use
- Advanced HIV disease, illness

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Perinatal Antiretroviral Exposure and Prevented Mother-to-Child HIV Infections with Antiretroviral Prophylaxis

- Between 1978 and 2010, an estimated 186,157 HIV-exposed infants and approximately 21,003 HIV-infected infants were born in the United States
- Between 1994 and 2010, an estimated 124,342 HIV-exposed infants were born in the US, and approximately 6083 infants were perinatally infected with HIV
- As a result of PMTCT interventions, an estimated 21,956 MTCT HIV cases have been prevented in the United States since 1994
- Conclusion: Although continued vigilance is needed to eliminate mother-to-child HIV transmission, PMTCT interventions have prevented nearly 22,000 cases of perinatal HIV transmission in the United States since 1994

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Admission of HIV + Mother to Labor & Delivery:



- As per hospital protocol
 - Vital signs Fetal monitoring
 - Activity Diet
 - Lab work
 - Review need for intra partum antiretroviral medication
(Medication indicated if patient has new infection, if viral load unsuppressed, poorly adherent or status unknown)
 - Dedicated intravenous line for AZT / Zidovudine
 - Zidovudine 2mg./kg x 1 hour followed by 1mg/kg until delivery (Elective C/S: Give 3 hours)
 - Continue other medications
 - Maintain patient confidentiality

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Recommendations For Labor & Delivery

Rupture of membranes beyond 4 hours is an increased risk for any patient with a viral load and should be avoided until necessary

- ❑ Avoid any procedure that may increase risk of fetal contact with maternal blood or vaginal secretions:
 - fetal scalp electrode
 - intra-uterine pressure catheter
 - fetal scalp pH sampling
 - use of forceps or vacuum extraction

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Management of Membrane Rupture in New/Untreated Patient or patient who has a viral load

- ❑ In untreated patient, the risk of transmission with rupture of membranes (ROM) increases with time
- ❑ If labor is progressing and membranes are intact, avoid artificial ROM and invasive monitoring
- ❑ Women scheduled for Cesarean who present with premature rupture of membranes (PROM): individualize management
 - ❑ Duration of rupture, progress of labor
 - ❑ HIV RNA level, current ARV regimen

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What happens if an HIV -infected woman goes into labor or her water breaks before her scheduled Cesarean delivery?

- Once a woman goes into labor or her water breaks, a cesarean delivery may not reduce the risk of mother-to-child transmission of HIV
- In this situation, the decision whether to deliver the baby by cesarean section depends on a woman's individual circumstances



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When Is A Scheduled Cesarean Delivery Recommended To Prevent Mother-to-Child Transmission of HIV?

- When a woman has a viral load greater than 1,000 copies/mL near the time of delivery
- When a woman's viral load is unknown
- In these situations, a woman with HIV should have a scheduled cesarean delivery even if she took HIV medicine during pregnancy. The cesarean delivery should be performed before a woman goes into labor and before rupture of membranes

The risk of mother-to-child transmission of HIV is low for women who take HIV medicines during pregnancy and have a viral load of less than 1,000 copies/mL near the time of delivery. In this situation, a woman with HIV should have a vaginal delivery unless there are other medical reasons for a cesarean delivery

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ACOG Committee Opinion
Scheduled Cesarean Delivery and the Prevention of Vertical Transmission of HIV Infection

- If viral load >1,000 despite treatment, the risk of MTCT may be reduced further by scheduled C/S
- If viral load <1,000 risk of MTCT is 2% regardless of delivery route
- No reduction in MTCT if C/S done after labor or membrane rupture
- Ultimate choice of method of delivery lies with patient

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ACOG Committee Opinion Scheduled Cesarean Delivery and the Prevention of Transmission of HIV Infection

- Scheduled C/S should be performed at 38 weeks
- No amniocentesis for fetal lung profile
- Measure maternal viral load at baseline and every 3 months and use most recent values in counseling for mode of delivery

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STANDARD PRECAUTIONS AND OBSTETRIC PRACTICE

Barrier devices for specific procedures recommended by hospital infection control guidelines

Procedure	Gloves	Facial Protection	Gown	Shoe Covers
Pelvic exam	X			
Amniotomy	X	X	X	
Vaginal delivery	X	X	X	X
Cesarean delivery	X	X	X	X
Tubal ligation	X	X	X	
GYN surgery	X	X	X	X

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Rapid HIV Testing on Labor & Delivery



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Rapid HIV Testing on L & D

- ~40% of infected infants, maternal HIV status unknown to provider prior to L&D (Lampe, CDC 2004)
- Antiretroviral therapy can reduce MTCT up to 50% even when begun during L&D.

▪ Wade NA, Birkhead GS, Warren BL, et al. Abbreviated regimens of zidovudine prophylaxis and perinatal transmission of the human immunodeficiency virus. *N Engl J Med* 1998; 339:1409-14.

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Who are the Pregnant Women Who Will Need Rapid HIV Testing on L&D?

- Women with no or limited prenatal care
- Women who were not offered testing
- Women whose results are unavailable
- Women who declined testing previously
- Women who report new risk behavior or partner

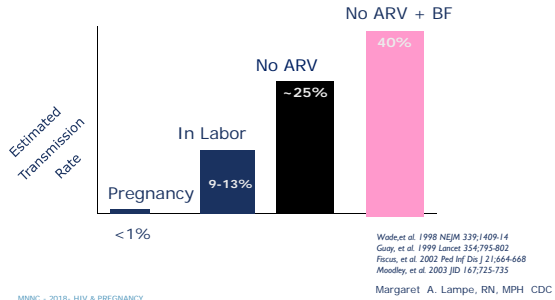
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NURSING ROLE IN RAPID TESTING

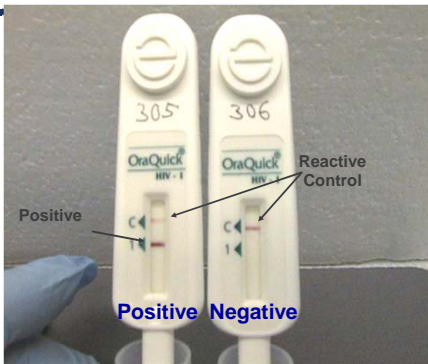
- Identify who will need test
- Provide education on role of testing
- Offer testing
- Track results and ensure follow-up
- Maintain patient confidentiality
- Provide support

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Timing of Antiretroviral (ARV) Prophylaxis and Risk of Perinatal HIV Transmission



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Positive

Reactive Control

Positive Negative



Read results in 20 - 40 minutes

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How should staff manage a pregnant patient with a positive rapid HIV test who is not in active labor?

If the woman is not in labor, and delivery is not imminent, confirmatory testing should be conducted and the patient managed with a referral to a perinatal HIV specialist
 She will have additional testing, and initiate treatment
 Method of Delivery will be determined by her gestational age and response to treatment

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Giving + Rapid HIV Results In Labor

- *“Your preliminary HIV test was positive...this means that you may have HIV infection. We always do another test to confirm a positive rapid test”*
- *“It is best that we start medicine to reduce the risk to your baby while we wait for the confirmatory results.”*
 - Intra-partum treatment to reduce transmission to her baby
 - C-section
 - Need to postpone breastfeeding until results of confirmatory test

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Intrapartum ARV Prophylaxis with a Positive Rapid Test

If test is positive, give maternal IV Zidovudine (ZDV)

Initiate 3- drug infant combination ARV prophylaxis includes ZDV, lamivudine, nevirapine

Maternal confirmatory HIV test done postpartum

If positive, continue infant combination ARV prophylaxis for 6 weeks

If negative, stop infant ARV therapy

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POST-PARTUM HEMMORHAGE

- Postpartum hemorrhage consider the ARVs
 - If she is receiving a cytochrome (CYP) 3A4 enzyme inhibitor (eg, a PI), methergine is last resort due to potential for excessive vasoconstriction
 - If she is receiving a CYP3A4 enzyme inducer such as NVP, EFV, or etravirine, additional uterotonic agents may be needed because of the potential for decreased methergine levels and inadequate treatment effect.
- Pre-Eclampsia and Preterm Labor
 - Do not run AZT and MgSO4 in same line.


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Caring for the Woman Newly Diagnosed With HIV in Labor

- Psychosocial support during labor and postpartum follow-up for mother and baby
- Support bottle-feeding decision to protect infant
- Confidentiality of results and treatment for mother and infant
- Communication and documentation of preliminary positive results
 - Delivery and newborn records
 - Communication with pediatrician
 - Plan for follow-up of confirmatory results

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Care for HIV Exposed Infants

- Immediately cleanse of blood & fluids, 
- Routine Vitamin K, immunizations, bathe
- Avoid breastfeeding
- HIV diagnostic testing to establish or rule out HIV infection out as early as possible: HIV DNA PCR
- CBC, ALT /AST to monitor effects of medication
- Communicate with Pediatrics: Provide maternal information/care
- Provide referral to an HIV specialist
- Refer families to support services and community resources

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Treatment of the HIV Exposed Infant

Infant prophylactic medication:
Zidovudine (ZDV/AZT/Retrovir) suspension (10mg/ml)

DOSE: 2mg/kg orally q 12 hours x 4- 6 weeks

Start immediately, within 6-12 hours of delivery

If mother was diagnosed on L & D

- Add 3 doses of Nevirapine
 - Birth
 - 48 hours after 1st dose
 - 96 hours after 1st dose



US Public Health Service Guidelines, 2017

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A 6-week course of combination ARV prophylaxis regimen is recommended for all infants at higher risk of HIV transmission including those born to mothers who

- have received no antepartum or intrapartum ARV drugs, intrapartum ARV drugs only,
- have received combination ARV drugs and do not have sustained viral suppression

- Zidovudine
- Lamivudine
- Nevirapine



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Postpartum Maternal Care

- Support formula feeding decision
- Continue maternal ARV treatment
- Provide routine care, hygiene,
- Monitor for infection
- Maintain confidentiality
- Provide family planning info
- Provide referrals to community resources



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Timing of Diagnostic Testing in Infants

- Virologic testing of HIV-exposed infant (HIV DNA PCR or HIV RNA assays)
 - 14-21 days of age
 - 2 months
 - 4-6 months
 - Some experts also recommend virologic testing at birth
- HIV antibody test
 - 12-18 months to document seroreversion in HIV-uninfected infants
 - Diagnostic test for children ≥18 months



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Diagnostic Testing in Infants

Criteria for HIV+ diagnosis

- 2 positive HIV virologic tests on separate blood samples (regardless of age)
- Positive HIV antibody test with confirmatory Western blot (or IFA) at age ≥ 18 months

Criteria for negative HIV status

- HIV DNA negative x 2 with testing at >1 month and > 4 months of age

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Case #1



- Ms. R is admitted from the ER fully dilated and pushing. This is her third baby and according to her chart, she had two prenatal visits. Her history leads you to believe that she is at risk for HIV.
- What are your next steps?

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RESOURCES FOR CLINICIANS



- Offering information on AIDS treatment, prevention, and research
- Clinical guidelines for ARV treatment
 - Perinatal/Mother-to-Child Transmission
 - Pediatrics
 - Adults and Adolescents
- <http://www.aidsinfo.nih.gov>

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CASE # 2

- 24 yo G1P0 at 35 weeks has HIV, diagnosed during this pregnancy. She has been intermittently compliant with her ARVs and has never had a VL lower than 1200.
- What should her plan of care be going forward?
- Is her baby a high risk or low risk infant?



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UCSD Mother-Child-Adolescent HIV Program

Goals:

- To coordinate the delivery of comprehensive family-focused HIV care for a large, geographically and culturally diverse region
- To improve the survival and quality of life among children, adolescents and women by providing effective medical care, case management, health education, adherence, mental health counseling, peer support and clinical trial opportunities

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Health Care Services: Comprehensive Coordinated and Family Centered

- Coordination of Specialty Prenatal Care
- Preconception counseling
- Diagnostic Testing for Children
- HIV Care for Infants & Children
- HIV Care at the Adolescent HIV Clinic
- Care for Women at the Fem-Owen HIV Clinic
- Developmental and mental health evaluations and interventions

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Services of the UCSD Mother-Child- Adolescent HIV Program are funded by

- The Ryan White Comprehensive Family Services Branch, HIV/AIDS Bureau, Health Resources and Services Administration
- The case management program is funded, in part by the Ryan White Treatment Modernization Act Part A, San Diego County Office of AIDS Coordination
- Clinical research: The National Institutes of Health
- Generous donations from our community

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WHAT ABOUT SERODISCORDANT COUPLES ?

- HIV infected partner should be receiving combination antiretroviral therapy and demonstrate sustained suppression of plasma viral load below the limits of detection
- Use of antiretroviral pre-exposure prophylaxis (PrEP) for HIV-uninfected partners may reduce the risk of sexual transmission
- Couples with HIV-Infected Women, the safest conception option is artificial insemination, including the option of self-insemination with a partner's sperm during the peri-ovulatory period .
- •Couples with HIV-Infected Men, the use of donor sperm from an HIV-uninfected man with artificial insemination is the safest option Other options: sperm preparation techniques coupled with either intrauterine insemination or *in vitro* fertilization
- Testing every trimester using viral tests (RNA) at 36 weeks and rapid test L & D
- <http://aidsinfo.nih.gov/guidelines/11/2017>

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Perinatal HIV/AIDS

Rapid perinatal HIV consultation from practicing providers
HIV testing in pregnancy

Treating HIV-infected pregnant women

Preventing transmission during labor and delivery and the post-partum period
HIV-exposed infant care

Call for a Phone Consultation (888) 448-8765

24 hours, Seven days a week

<http://nccc.uesf.edu/clinician-consultation/perinatal-hiv-aids/>



Call for a Phone Consultation
(888) 448-8765
24 hours, Seven days a week

Advice from national experts in perinatal HIV care
provide consultation on all levels of perinatal HIV management, including on complex and unique treatment dilemmas, to provide you the best possible information on up-to-date, high-quality care

Consultation on complex perinatal HIV treatment issues
Addressing adherence issues
Managing HIV-positive pregnancies with late presentation to care
Safer conception options for HIV-affected couples

Referral to perinatal providers and reproductive services
Connecting HIV-infected women and exposed infants to HIV- clinicians
Connecting HIV-affected couples considering conception with supportive providers

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Antiretroviral Pregnancy Registry

- A collaborative project managed by PharmaResearch Corporation on behalf of an advisory committee (specialists in OB/Gyn, ID, teratology, epidemiology, and CDC and NIH members) and sponsored by:

Abbott Laboratories, Agouron Pharmaceuticals, Inc.,
Boehringer Ingelheim Company,

Bristol-Myers Squibb, Co., DuPont Pharmaceuticals Company,
GlaxoSmithKline, F. Hoffmann-LaRoche Ltd., Merck & Co., Inc.

- Purpose: To assess safety of antiretroviral drugs during pregnancy
- Telephone: (800) 258-4263 Fax: (800) 800-1052

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RESOURCES

- American College of Obstetricians and Gynecologists.(ACOG) Committee Opinions www.acog.org
- WomenChildrenHIV.org A comprehensive, Internet-based library of materials on mother and child HIV infection
- Treatment Guidelines: www.aidsinfo.nih.gov 11/14/17
- CDC Perinatal HIV: <http://www.cdc.gov/hiv/topics/perinatal/resources/factsheets>
- Perinatal Hotline Service 888-448-8765

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REFERENCES

A Guide to the Clinical Care of Women with HIV, 2013. Edited by Jean R Anderson, M.D. Distributed by HRSA, available online at www.ask.hrsa.gov

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. Updated regularly. 11/14/17 <http://aidsinfo.nih.gov/guidelines/perinatal>

Rapid Human Immunodeficiency Virus Testing on Labor and Delivery
Lisa Rahangdale, MD, MPH, and Deborah Cohan, MD, MPH
OBSTETRICS & GYNECOLOGY VOL. 112, NO. 1, JULY 2008, 159-163

No perinatal HIV-1 transmission from women with effective antiretroviral therapy starting before conception.
Mandelbrot L, Tubiana R, Le Chenadec J, Dollfus C, Faye A, Pannier E, Matheron S, Khuong MA, Garrait V, Reliquet V, Devidas A, Berrebi A, Allisy C, Elleau C, Arvieux C, Rouzioux C, Warszawski J, Blanche S; ANRS-EPF Study Group. Clin Infect Dis. 2015 Dec 1;61(11):1715-25.

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The Clinician Consultation Center is a free telephone advice service for clinicians by clinicians. Receive expert clinical advice on HIV, hepatitis C, substance use, PrEP, PEP, and perinatal HIV.

See nccc.ucsf.edu for more information.

HIV/AIDS Warmline 800-933-3413
HIV treatment, ARV decisions, complications, and co-morbidities

Perinatal HIV Hotline 888-448-8765
Pregnant women with HIV or at-risk for HIV & their infants

Hepatitis C Warmline 844-HEP-INFO 844-437-4636
HCV testing, staging, monitoring, treatment

PrePline 855-HIV-PEP
Pre-exposure prophylaxis for persons at risk for HIV

Substance Use Warmline 855-300-3595
Substance use evaluation and management

PEPline 888-448-6911
Occupational & non-occupational exposure management

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ONE
TEST
TWO
LIVES

Prenatal HIV screening
benefits mom and baby.™

CDC Perinatal HIV:
<http://www.cdc.gov/hiv/topics/perinatal/resources/factsheets>

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