Eliminating Perinatal HIV Transmission

A Curriculum for OB/GYN Resident and Midwifery Programs
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Learning Objectives

- Discuss current epidemiology of HIV infection in the United States
- Describe how current trends in the HIV epidemic impact HIV infection in women and children in the United States
- Discuss current standards of care for preventing mother-to-child HIV transmission
- Recognize psychosocial issues related to HIV infection in pregnancy
- Using case scenarios, apply best practices to offer opt-out HIV testing
- Describe and identify resources for current information on national guidelines for preventing perinatal HIV transmission
Perinatal HIV Epidemic: Situation Analysis

Note: Images used throughout this presentation do not represent actual events or people living with HIV.
Epidemic in the United States Among Women and Children

• AIDS cases in women have risen from 7% in 1985 to 25% in 2010
• 220,955 AIDS cases in women reported through December 2010
• The number of HIV-infected infants born each year has decreased from ~1750 (in the mid-1990s) to ~143 in 2010
• In 2010, an estimated 217 children <13 years were diagnosed with HIV and 23 were diagnosed with AIDS
Estimated Numbers and Percentages* of AIDS Cases Among Female Adults and Adolescents 1985–2010—United States and Dependent Areas

Note: Data have been adjusted for reporting delays.
*Percentage of all cases that were diagnosed among females.
Percentages of HIV Cases Diagnosed Among Female Adults and Adolescents, by Transmission Category 2010—46 States and 5 US-Dependent Areas

Note: Data include persons with a diagnosis of HIV infection regardless of their AIDS status at diagnosis. Data from 46 states with confidential name-based HIV infection reporting since at least 2003. Data have been adjusted for reporting delays and missing risk-factor information.

*Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.
†Includes blood transfusion, perinatal exposure, and risk factor not reported or not identified.
AIDS Cases Among Female Adults and Adolescents Attributed to Injection Drug Use or High-Risk Heterosexual Contact, by Region, 2003–2007—50 States and DC

![Bar chart showing AIDS cases by region.

<table>
<thead>
<tr>
<th>Region</th>
<th>Injection Drug Use (N=13,080)</th>
<th>High-Risk Heterosexual Contact (N=35,024)</th>
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<tbody>
<tr>
<td>Northeast</td>
<td>4,873</td>
<td>9,734</td>
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<tr>
<td>Midwest</td>
<td>1,207</td>
<td>3,299</td>
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<tr>
<td>South</td>
<td>5,754</td>
<td>19,091</td>
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<tr>
<td>West</td>
<td>1,247</td>
<td>2,900</td>
</tr>
</tbody>
</table>

Note: Data have been adjusted for reporting delays and missing risk-factor information.

* Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.
Estimated Numbers of Perinatally Acquired AIDS Cases by Year of Diagnosis, 1985–2010 — United States and Dependent Areas

Note: Data have been adjusted for reporting delays and missing risk-factor information.
Global HIV Rates

- There are an estimated 34 million people infected with HIV.
- Worldwide, of people living with HIV, the percentage of women with HIV remains at 50%.
- Nearly 68% of all people with HIV globally live in sub-Saharan Africa.
- 70% of AIDS deaths in 2011 occurred in sub-Saharan Africa.
- In sub-Saharan Africa, women make up nearly 60% of those with HIV infection.
- Nearly 15 million children <18 years of age in sub-Saharan Africa have lost one or both parents to HIV.
Global HIV Rates (continued)

Adults and children estimated to be living with HIV in 2011

Total: 34 million (31.4–35.9 million)
Prevention of Perinatal HIV

- With maternal diagnosis and prophylaxis during the perinatal period, perinatal HIV transmission is usually preventable in all but 2% or less cases.

- In order to reach this goal, HIV testing and antiretroviral (ARV) prophylaxis and treatment are essential.
What We Know About Reducing Perinatal HIV Transmission
Perinatal HIV Transmission

- Without ARV drugs during pregnancy, risk of transmission from mother to infant is 1 in 4

- Pediatric AIDS Clinical Trials Group (PACTG) 076 found that by giving zidovudine (ZDV) to the pregnant woman during pregnancy, labor, and delivery, and to her newborn, transmission could be reduced to 8%

- The risk of perinatal transmission can now be less than 2% (1 in 50) with:
  - Highly effective ARV therapy (HAART)
  - Elective Cesarean section as appropriate
  - Formula feeding
Timing of Perinatal HIV Transmission: Non-Breastfeeding Women

- Intrauterine (before 36 weeks) ~20% of cases
  - Virologic detection of HIV in newborn at 1–2 days of life
- Peripartum ~80% of cases
  - Onset of placental separation
  - Mother-to-fetus microtransfusions
  - Labor and rupture of membranes
- Most transmission occurs close to or during labor and delivery (L&D)
Factors Influencing Perinatal Transmission

- Maternal Factors
  - High HIV-1 RNA levels (viral load [VL])
  - Low CD4+ lymphocyte count ("T-cells")
  - Co-infections: Hepatitis C, cytomegalovirus (CMV) bacterial vaginosis
  - Maternal injection drug use
  - No ARV therapy or prophylaxis
Factors Influencing Perinatal Transmission (continued)

- Obstetrical Factors
  - Length of ruptured membranes and/or chorioamnionitis
  - Vaginal delivery (if VL > 1000)
  - Invasive procedures

- Infant Factors
  - Prematurity
  - Breastfeeding
Mechanisms to Reduce Perinatal HIV Transmission

- ARV drugs
  - Lower maternal antepartum viral load
  - Provide pre- and post-exposure prophylaxis for the infant

- Prophylaxis is recommended
  - Antepartum
  - Intrapartum
  - Neonatal
National Recommendations for HIV Testing of Pregnant Women CDC (USPHS) and ACOG

• Prenatal: routine, universal HIV screening with the right to decline
• 3rd trimester: repeat if woman has risk factors, is in area of high prevalence, or has previously refused
• Labor and delivery: routine rapid testing for women with unknown HIV status
• Postnatal: rapid testing for infants whose mother’s status is unknown
• State regulations, laws, policies about HIV screening of pregnant women vary
Recommendations for 3rd Trimester Repeat HIV Testing

- In jurisdictions with an elevated incidence of HIV/AIDS among women
- Women known to be at high risk for HIV
- Facilities that identify HIV infection in at least 1/1,000 women screened
- Women who have signs or symptoms of acute HIV infection (acute retroviral syndrome)
Acute HIV Infection

- Can present like mononucleosis

- Symptoms include
  - Fever
  - Rash, often erythematous maculopapular
  - Fatigue
  - Pharyngitis
  - Generalized lymphadenopathy
  - Urticaria
  - Myalgia/arthralgia
  - Anorexia
  - Mucocutaneous ulceration
  - Headache, retroorbital pain
  - Neurologic symptoms (e.g., aseptic meningitis, radiculitis, myelitis)

- Use a plasma RNA PCR test as well as HIV antibody to diagnose
Acute HIV Infection in Pregnancy

- Increased risk of transmission to the fetus during gestational acute retroviral syndrome is hypothesized 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 ARV prophylaxis
  - Consideration of elective Cesarean delivery

- Consult with HIV expert
Why Aren’t All Pregnant Women Tested?

- Provider
- Language barriers
- Late entry or no prenatal care
- Patient perceived as not at risk
- Provider does not strongly recommend testing to all women

- Patient
- Women’s reasons for not being tested
  - Do not think they are at risk
  - Have been tested “recently”
  - Test not offered or recommended
- Negative consequences of testing rarely mentioned
Routine Prenatal HIV Testing

- Educate all women about the importance of HIV testing
  - Written or electronic information
  - Wall posters
  - Individual or “whole office” approach

- Materials written at a low reading level and in various languages
Opt-in Prenatal HIV Testing

- Opt-in requires pretest counseling or education and consent for the HIV test
  - May require a separate written consent
  - Studies show the majority of women agree/consent
  - May depend on the skill, comfort, and recommendations of the clinician
  - Women may feel singled out: to admit to “risky behavior”
- Contributes to ongoing HIV “specialism”
Routine Prenatal HIV Testing – Opt-Out

- Recommended by CDC
- Notification of the test with the option to decline
- Include with other routine prenatal tests
- State laws regulate consent process
What Women Need to Know

● HIV testing is important: HIV can be passed from a mother to her baby in pregnancy, during birth, and by breastfeeding

● If a woman has HIV, there is treatment for her and she can help prevent transmission to her baby

● HIV testing is recommended for all pregnant women

● An HIV test is a routine prenatal test

● A woman can have her questions answered; she can decline testing
Interpreting HIV Test Results

- EIA (enzyme-linked immunosorbent assay, ELISA) is a standard HIV-antibody screening blood test
- Rapid HIV screening tests detect HIV antibody
- A positive (reactive) ELISA or a rapid HIV test is always confirmed with a Western blot (WB) test
- A positive WB can usually confirm HIV infection
- During pregnancy, there may be a lower predictive value of a positive EIA
Indeterminate WB Results

- Causes of indeterminate WB results
  - Patient in process of seroconversion
  - Cross-reacting non-specific antibodies
  - Late-stage HIV infection
  - Infection with O strain or HIV-2
  - Technical error

- Management: risk assessment, repeat testing

- Follow up with HIV RNA testing
Giving a Pregnant Woman Negative HIV Test Results

- Meaning of a negative test result: “Your HIV test was negative…you are most likely not infected with HIV, though the test may not detect recent infection”

- Refer women at risk for HIV infection for counseling and risk-reduction interventions

- Repeat HIV testing in 3rd trimester in areas or jurisdictions of high-HIV incidence or for women with risk factors
Counseling a Pregnant Woman with a Positive HIV Test

- Meaning of a positive test result:
  “Your HIV test was positive. This means you have HIV infection.”

- “The important thing to know is that there is treatment for HIV that can help your health and reduce the risk of transmission to your baby.”

- Focus on the woman’s feelings and immediate support system:
  “Do you have someone you can talk to about this?”
Positive HIV Results (continued)

- Referral for HIV care/consult with HIV/OB expert
  - Evaluation for ARV treatment
  - ARVs for preventing perinatal transmission
- Referral for post-test counseling and partner services
- Reinforce that there is treatment for her and for reducing the risk to her baby
Pregnant Woman with an HIV-Infected Male Partner

- Test for HIV
  - If positive: initiate interventions to reduce perinatal transmission risk
  - If negative: counsel to reduce risk of transmission from partner
- 2nd HIV test in 3rd trimester, before 36 weeks, if possible
Pregnant Woman with an HIV-Infected Male Partner (cont.)

- Counsel woman about symptoms of acute HIV infection (fever, pharyngitis, rash, myalgia, diarrhea, headache, flu-like symptoms)
- Counsel on importance of seeking medical care and testing if she has these symptoms
- If HIV infection is suspected, do HIV RNA and antibody test; repeat in 4–6 weeks
- If patient presents in labor: rapid HIV test
Lessons from Clinical Trials of ARV Interventions to Reduce Perinatal HIV Transmission
Pediatric AIDS Clinical Trials Group 076

A phase III randomized placebo-controlled trial of zidovudine (ZDV) for preventing maternal-fetal HIV transmission.

Treatment Regimen

- **Antepartum:** 100 mg ZDV po 5x day, started at 14–34 weeks gestation

- **Intrapartum:** During labor, 1-hour initial dose 2 mg/kg IV followed by continuous infusion of 1 mg/kg until delivery

- **Postpartum/Infant:** 2 mg/kg po q 6 hr for 6 weeks, start 8–12 hours after birth
Results of Pediatric AIDS Clinical Trials Group 076

- Intervention led to a 66% reduction in risk for transmission ($P = <0.001$)
- Efficacy was observed in all study subgroups
Reducing HIV Transmission with Partial ZDV Regimens (NY cohort)

<table>
<thead>
<tr>
<th>Transmission Rate</th>
<th>Complete regimen</th>
<th>Intrapartum/neonatal</th>
<th>Infant</th>
<th>None</th>
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</thead>
<tbody>
<tr>
<td>%</td>
<td>6.1</td>
<td>10.0</td>
<td>9.3</td>
<td>26.6</td>
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</table>
International Studies: Short-Course Regimens to Prevent Transmission

- Combination ARV regimens are more effective than single-drug therapy.
- Longer duration of antepartum prophylaxis is more effective than shorter (e.g., starting at 28 weeks gestation versus 36 weeks).
- If no maternal therapy, give postnatal infant ARV prophylaxis: a minimum of ZDV for 6 weeks.
Antepartum Care for HIV-Infected Women
Standard Precautions and Obstetric Practice

Barrier devices for specific procedures recommended by hospital infection control guidelines

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Gloves</th>
<th>Facial Protection</th>
<th>Gown</th>
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<td>Amniotomy</td>
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<td>Vaginal delivery</td>
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<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Cesarean delivery</td>
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<td>Tubal ligation</td>
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<td>GYN surgery</td>
<td>X</td>
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</table>
Review: Goals of ARV Therapy

- Suppress HIV to below the limits of detection or as low as possible for as long as possible
- Prolong life and improve quality of life
- Preserve or restore immune function
- Reduce risk of perinatal transmission
Perinatal ARV Guidelines

- USPHS Task Force Recommendations for the Use of ARV Drugs in Pregnant HIV-1 Infected Women for Maternal Health and to Reduce Perinatal HIV-1 Transmission in the United States
- Developed in 1994 in response to PACTG 076
- Working group meets monthly
- Updated recommendations available online at AIDSInfo website (http://www.aidsinfo.nih.gov)
Guidelines for ARV Drugs in Pregnancy

- Use optimal ARVs for woman’s health; consider potential impact on fetus/infant
- Include 3-part ZDV regimen to reduce perinatal transmission as part of 3-drug ARV regimen
- Use of ZDV alone is controversial but may be considered when HIV RNA levels are <1000 copies/mL
Guidelines for ARV Drugs in Pregnancy (continued)

- Discuss preventable risk factors for perinatal transmission
- Support woman’s decision
- Acceptance or refusal of ARVs should not negatively affect care
General Principles: Use of ARVs During Pregnancy

- Initial evaluation should include:
  - Assessment of HIV disease status
  - Recommendations for ARV therapy or assessment of current ARV regimen

- Recommend ARV therapy/prophylaxis to all pregnant women with HIV infection

- Discuss known benefits and potential risks of ARVs during pregnancy
General Principles: Use of ARVs During Pregnancy (continued)

- Treatment is complex: Consult with an HIV expert
- If HIV RNA is detectable, do resistance testing before starting/modifying therapy
- If HIV is diagnosed during second half of pregnancy, initiate ARV regimen without waiting for results of resistance test
- Individualize ARV treatment
- Emphasize the importance of adherence to treatment and prophylaxis
- Assure coordination of comprehensive services
Special Considerations: ARV Use by Pregnant Women and Infants

- Pregnancy may alter ARV absorption, distribution, and metabolism
- Dosing and toxicity risk may be affected
- Limited data to guide treatment in pregnancy
- Report all cases of ARV drug exposure to ARV Pregnancy Registry at http://www.apregistry.com
Special Considerations for ARV in Pregnancy (continued)

- Potential adverse effects during pregnancy, including teratogenicity
  - During pregnancy avoid:
    - Combination of stavudine (d4T) + didanosine (ddI): increased risk of lactic acidosis and hepatic steatosis
ARVs to Use With Caution During Pregnancy

- Nevirapine (NVP) – increased risk of hepatotoxicity
- Do not start NVP in women with CD4 counts of >250 cells/µL unless benefits clearly outweigh risks
- Nucleoside Reverse Transcriptase Inhibitors (NRTIs) – risk of lactic acidosis/hepatic steatosis; monitor liver enzymes, electrolytes monthly in 3rd trimester; assess often for new symptoms
Hyperglycemia and Protease Inhibitor (PI)-based ARV Therapy

- Potential for hyperglycemia

- Screening for hyperglycemia:
  - Standard glucose loading test at 24–28 weeks
  - Consider earlier screening if on chronic PI-based therapy
Types of ARV Regimens

- Non-nucleoside Reverse Transcriptase Inhibitor (NNRTI)-based
  (1 NNRTI + 2 NRTI backbone)

- PI-based
  (1 or 2 PIs + 2 NRTI backbone)

- NRTI-based
  (3 NRTIs: inferior virologic efficacy; consider if NNRTI- or PI-based regimen is not appropriate)
HIV-Infected, Pregnant, ARV Naive

- If patient meets criteria for treatment, potent combination therapy is the standard of care
  - In consultation with an HIV expert, start as soon as possible, including in 1st trimester
  - Consult data on specific ARVs in pregnancy

- If patient does not require treatment for her own health: 3-drug combination ARV regimen for perinatal prophylaxis
  - Consider delay until after 1st trimester in women with high CD4 cell counts and low HIV RNA levels
  - ZDV monotherapy for prophylaxis not recommended, but may be considered if VL <1,000 copies/mL
HIV-Infected Pregnant Women Currently on ARVs

- Continue ARVs, if possible; avoid treatment interruption
- Continue efavirenz in women receiving efavirenz-based ART who present in 1st trimester of HIV RNA is suppressed
- Order ARV resistance tests if detectable viremia (>500–1000 copies/mL)
- If on NVP with suppressed VL and tolerating it, continue NVP
- Include ZDV, unless contraindicated
Women with Past History of ARVs But Not Currently on Treatment

- Obtain history of prior ARV regimens and results of resistance testing
- Get drug resistance testing before starting ARVs
- Consult an HIV specialist regarding choice of regimen
- Select ARVs based on ARV history and resistance testing; monitor virologic response closely
- Repeat resistance testing and consult experts if poor virologic response
Stopping ARV Therapy During Pregnancy

- Avoid interruption of therapy, if possible
  - Interruption is likely to increase risk of ARV resistance

- If discontinuation required, stop and reinitiate all drugs at the same time, except:
  - If on NNRTI, if possible stop NNRTI first, continue others for approximately 7 days

- If restarting NVP after interruption of >2 weeks, restart with standard 2-week dosage escalation
Prenatal Monitoring

- Monitor CD4 cell count at initial visit and every 3 months thereafter

- Monitor plasma HIV RNA levels to assess rapid and sustained decrease
  - At initial visit
  - 2–4 weeks after starting/changing ARV regimen
  - Monthly until RNA levels undetectable
  - At least every 3 months during pregnancy
  - At 34–36 weeks for decision on mode of delivery
Prenatal Monitoring (continued)

- Obtain resistance testing for women with suboptimal VL suppression or rebound
- Monitor for ARV drug complications
- Assess and support ARV adherence
Monitoring Women and Fetus: Ultrasound Recommendations

- 1st trimester: confirmation of gestational age
  - Potential timing for Cesarean delivery, if needed, performed at 38 weeks

- 2nd trimester: assess fetal anatomy for women on combination ARVs
Failure of Viral Suppression

- Assess resistance, adherence, dosing and problems with absorption
- Consider modification of ARV regimen
- Consult with an HIV expert
- Scheduled Cesarean delivery recommended if HIV RNA >1,000 copies/mL near time of delivery
ARV Resistance in Pregnancy

Resistance to ARVs may:

- Decrease efficacy of perinatal prophylaxis
- Limit future maternal treatment options
- Limit treatment options in infected infants
ZDV Resistance in Pregnancy

- Women with ZDV resistance should receive IV ZDV during labor (if they have an HIV RNA >400 copies/mL near delivery), along with their ARV regimen
- The optimal prophylactic regimen for newborns of women with ARV resistance is unknown
- Consult pediatric HIV specialist
ARV Therapy and Pregnancy Outcome

- Preterm delivery—conflicting data
  - Most US data do not demonstrate increased risk

- Mitochondrial dysfunction in neonates due to *in utero* ARV exposure
  - Conflicting data: appears to occur very rarely

- HIV-infected women should receive combination ARVs according to current USPHS guidelines
Intrapartum Care for HIV-Infected Women
Which Pregnant Women Will Need Rapid HIV Testing in Labor?

Women:
- With no or limited prenatal care
- Who were not offered testing
- Whose results are unavailable
- Who declined testing previously
- Who live in high-incidence areas, are at risk, and have not had a repeat test in 3rd trimester
Rapid HIV Tests

- Six tests currently FDA approved for blood/serum
  - Four point-of-care tests (CLIA waived)
  - One test available for oral fluid
  - All are very specific and sensitive
Rapid HIV Testing in Labor and Delivery

- Provides results quickly; if positive, treatment can be started to reduce transmission to infant

- Message:
  - It is a screening test
  - If negative, no further testing is necessary at this time
  - If positive, results are “preliminary,” a confirmatory test is always done
Giving Positive 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.”

  - Treatment to reduce transmission to her baby
  - Need to postpone breastfeeding until results of confirmatory test
Intrapartum ARV Prophylaxis with a Positive Rapid Test

- If test is positive, give maternal IV ZDV and initiate infant combination ARV prophylaxis (that includes ZDV)

- Maternal confirmatory HIV test done postpartum
  - If positive, continue infant combination ARV prophylaxis (that includes ZDV) for 6 weeks
  - If negative, stop infant ARV therapy
Caring for the Woman Newly Diagnosed with HIV in Labor

- Psychosocial support during labor and postpartum follow-up for mother and baby
- 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
Intrapartum ARV Management for Women on ARVs in Pregnancy

- At onset of labor, IV ZDV is recommended for all HIV-positive women with HIV RNA ≥ 400 copies/mL (or unknown HIV RNA) near delivery, regardless of antepartum regimen or mode of delivery
  - 2 mg/kg body weight over 1 hour followed by continuous infusion of 1 mg/kg/body weight per hour until delivery of infant
- IV AZT is not required if woman is receiving combination ARV regimens and HIV RNA < 400 copies/mL near delivery
- Continue other ARVs orally on schedule as possible
- When administering ZDV, discontinue d4T
HIV Transmission and Cesarean Delivery

- Cesarean section recommended:
  - For women with HIV RNA levels >1,000 near time of delivery
  - For women with unknown HIV RNA levels

- Schedule at 38 weeks

- Benefits of Cesarean unclear after ROM or onset of labor: base decision on clinical factors

- Benefits of Cesarean unclear for women with HIV RNA levels <1,000 on combination ARVs
Maternal Risks by Mode of Delivery

- Counsel women about potential risks/benefits of Cesarean versus vaginal delivery
- Cesarean associated with somewhat greater risk of obstetrical complications in HIV-infected women
- Complications do not outweigh benefits of reduced HIV transmission for those at increased risk
- Prophylactic narrow-spectrum antibiotic generally recommended
Management of Membrane Rupture

- 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
Other Intrapartum Issues

- Avoid artificial ROM or invasive monitoring unless obstetrically indicated and duration is expected to be short

- Use forceps or vacuum extractor only in select circumstances

- Avoid use of methergine for postpartum hemorrhage in women receiving PIs, efavirenz, or delavirdine
  - Risk of exaggerated vasoconstrictive response
  - Use if no other alternative, at low dosage, and for short duration
Case Discussions

Note: Images used throughout this presentation do not represent actual events or people living with HIV.
Case 1: OB/GYN Office, Young Couple

Alonzo and Rita, in their late 20s, are being seen for their first prenatal visit and are very excited about their first baby. They have been together for 3 years. Rita reads the material about the routine prenatal tests and says she will decline the HIV test. When questioned by the nurse, Rita says, “I don’t need an HIV test—I don’t do drugs, and Alonzo is the only one I’ve been with.”
Case 1: Questions

- What are the issues in this case?
- How do you present HIV prenatal testing?
Case 2: 1st Prenatal Visit, Private OB Practice

Mrs. Mary M., G2P1, is a 32-year-old professional woman. An immigrant from Western Africa, Mrs. M. is married and has a 6-year-old daughter. When presented with the routine prenatal tests, she declines HIV testing, saying she was “recently tested and it was negative.”
Case 2: Questions

- How do you or your office present routine prenatal HIV testing?
- What is your response to Mrs. M’s decline of HIV testing and her recent negative HIV test?
- What are the legal and ethical issues in this case?
Case 3: Hospital Prenatal Clinic, 3rd Trimester

Ms. Joan J. (a former injection drug user [IDU]), G3P2, 32-weeks gestation. First prenatal visit was at 20 weeks; tested HIV negative. She has a history of STDs and genital herpes. Reports that her partner sometimes refuses to wear a condom for sex. “He gets very angry about it sometimes, especially when he’s had a few drinks.” She complains about an itchy, yellowish vaginal discharge.
Case 3: Questions

- What are the issues in this case?
- How have you prepared Joan for 3rd-trimester HIV retesting?
- What are the issues if Joan’s HIV test is positive at 32 weeks?
- How will you present the results of an HIV-positive test?
Ms. Jennifer W. is a 26-year-old primigravida now at 16-weeks gestation. Her prenatal HIV screening ELISA (EIA) was positive and the Western blot was indeterminate. You repeated the HIV test 6 weeks later with the same results. Your practice is in a city with a low incidence of HIV in women.
Case 4: Questions

- Does Jennifer have HIV infection?
- Does she need to be started on ARVs for perinatal HIV prevention?
- How do you discuss these results with her?
Case 5: Questions

- What are recommendations for HIV testing for this woman?
- How do you present the HIV test?
- Do you have information about the test in Spanish?
- When will HIV test results be available? Is rapid testing an option?
- What are the issues if Ms. H.’s HIV test is positive?
- What is important to tell her?
Case 5: Prenatal Clinic, Late Presenter

Ms. Ana H., G3P2, a 22-year-old Latina, presents for prenatal care at 32 weeks. Her English seems to be pretty good. She says she moved here recently and had no time to see a doctor. Her other babies were born “early” but “they are fine.” She is reluctant to have an HIV test.
Case 6: Labor and Delivery, No Prenatal Care

Ms. Cathy C., G4P3, approximately 28–32-weeks gestation, is admitted in active labor. She states her water broke “about an hour ago.” She had no prenatal care. Urine+ for cocaine, Group B streptococcus positive (GBS+) [urine, cervix], other STDs negative.
Case 6: Questions

- What are the recommendations for this mother and infant, including rapid HIV testing?
- If the rapid HIV test is positive, what are the management issues? What about follow-up?
- What other clinical and psychosocial issues does this case present?
Case 7: L&D, Community Hospital, Non-Disclosure

Ms. Denise S., G2P1, is admitted to your community hospital L&D at 8 pm Saturday; contractions 5–6 minutes apart and membranes ruptured. States she has not had prenatal care. (She’s registered in the prenatal clinic at University Hospital but does not want to deliver there.) Denise opts to have a rapid HIV test. It’s positive; she’s not surprised. Says, “I know I’m positive.” Admits she’s taken HIV medicines but “didn’t take any this year.”
Case 7: Questions

- What are the management issues in this case?
- What are the recommendations for perinatal HIV prevention?
- What resources do you have to assist in managing this mother during labor, postpartum?
Ms. Marla G., G3P1, is in early labor. Her (new) partner is her labor coach. She refused HIV testing during prenatal care but consents to a rapid test; preliminary results are positive. Her contractions are now 2 minutes apart. She plans to breastfeed her baby. Partner wants to know “what’s going on?”
Case 8: Questions

- What are the issues in this case?
- What are the treatment options?
- What are the issues related to confidentiality?
- How do you discuss the risk of transmission through breastfeeding?
- How will you support Marla’s plans for breastfeeding?
- Is there access to ZDV syrup for the baby?
- What follow-up should be done?
Case 9: HIV-Exposed Infant

Mrs. Angela G.’s baby was born at 3 am Sunday morning by precipitous delivery. It is now 9 am and the results of Mom’s rapid HIV test come back positive. She tested negative early in prenatal care and in the 3rd trimester, but a rapid test was done in L&D because she reported that her husband was “back to using IV drugs.” Angela is shocked and frightened about the results of her rapid HIV test.
Case 9: Questions

- What do you tell her about her rapid test results?
- What treatment is recommended for Angela’s newborn?
- What resources do you have for this mother and her family?
Postpartum/Newborn Care and Testing
Breastfeeding and Transmission

- 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.
Follow-Up Care for the Mother

- Refer mother for specialty HIV care
- Possible changes in mother’s ARV therapy
- Monitor for adherence and postpartum depression: consider first follow-up visit at 2 weeks, then at 6 and 12 weeks
- HIV testing and follow-up of older children
- Follow-up of sexual/needle-sharing partners
Follow-Up Care for the Mother (continued)

- Primary, gynecologic/obstetric, and family planning services
- Mental health services
- Substance abuse treatment
- Coordination of care through case management for the woman, her children, and other family members
Clinical Management of the Perinatally HIV-Exposed Infant

- 6-week neonatal component of the ZDV chemoprophylaxis regimen is recommended for all HIV-exposed neonates

- Initiate ZDV for neonate (at gestational age-appropriate doses), as close to the time of birth as possible

- If mother has not received antepartum ARV, infant should receive ZDV 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)

- Decision to combine other drugs with the 6-week ZDV regimen should be made in consultation with a pediatric HIV specialist
ZDV Dosing in the Perinatally HIV-Exposed Infant

- Administration of neonatal ZDV
  - Oral: 2mg/kg/dose every 6 hours for 6 weeks
  - Give first dose as soon as possible after delivery: within 6–12 hours
  - IV dose for full-term infant is 1.5 mg/kg every 6 hours
  - Dose is adjusted for preterm infants

- Consult a pediatric HIV specialist
  - For ZDV dosing for premature infants
  - For additional ARV drugs for prophylaxis in infants
Evaluation and Follow-up of HIV-Exposed Infants

- Referral to a pediatric HIV specialist
- Support for ZDV prophylaxis for 6 weeks
- Diagnostic testing to establish or rule out HIV infection as early as possible
- PCP prophylaxis initiated at 6 weeks of age until HIV presumptively excluded
- Long-term follow-up of HIV- and ARV-exposed infants
- Support services for the family
Psychosocial, Legal, and Ethical Issues
HIV-Positive Pregnant Women: Psychosocial Issues

- Stigma: in community and in health care
- Non-disclosure: to partners, health-care team
- Domestic partner violence
- Mental health
- Substance abuse
- Worry about infection status of infant

For more information, see [http://www.aidsetc.org](http://www.aidsetc.org) or [http://www.womenchildrenhiv.org](http://www.womenchildrenhiv.org)
Legal and Ethical Issues with Impact on HIV Care

- Confidentiality and HIV reporting
- Non-disclosure to sexual partners
- Reproductive health and family planning
- Immigration issues
- Access to prenatal/HIV care
- For more information see: http://www.aidsetc.org and search on the topic of interest
HIV-Infected Women of Childbearing Age: Pre- and Interconception Care
Pre- and Interconception Care for Women with HIV Infection

- Contraception counseling to avoid unintended pregnancy
- Counsel on safe sexual practices, eliminating alcohol, illicit drug use, and smoking
- Educate about risk factors for perinatal HIV transmission and strategies for reducing them
- Encourage testing and counseling of partners
- Counsel on reproductive options that prevent HIV exposure to uninfected partner
Pre- and Interconception Care (continued)

- For women of childbearing potential, consider effectiveness of ARVs as well as teratogenic effects

- In women who intend to become pregnant, avoid efavirenz and other drugs with potential teratogenicity

- Attain a stable, maximally suppressed VL prior to conception
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
Perinatal Hotline – National Perinatal HIV Consultation and Referral Service

- Around-the-clock advice on testing and care of HIV-infected pregnant women and their infants
- Provides referral to HIV specialists and regional resources
  - 1-888-448-8765
  - HIVtesting@nccc.ucsf.edu
- For additional resources: http://www.nccc.ucsf.edu
Health Marketing Program for Obstetrical Providers

- Launched One Test. Two Lives.™ program in 2007
- Supports 2006 revised recommendations for HIV testing
- Encourages OBs and certified nurse-midwives (CNMs) to test all pregnant patients for HIV to reduce transmission to the baby
- Provides free materials and resources for providers to encourage patient acceptance of HIV testing
- Website: http://www.cdc.gov/actagainstaids/ottl
Program Materials

- Kit Cover
- Provider Materials
- Patient Brochure
- Poster
- Resource Sheet
Information Resources

• CDC’s One Test. Two Lives.™ program
  http://www.cdc.gov/actagainstaids/ottl
  1-800-CDC-INFO
  (800-232-4636)

• National HIV Testing Resources
  http://hivtest.cdc.gov

• Act Against AIDS
  http://www.cdc.gov/actagainstaids
Information Resources (continued)

US Department of Health and Human Services
HRSA Health Resources & Services Administration

- PART C: Early Intervention Services
- PART D: Services for Women, Infants, Children, Youth and their Families
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