Perinatal HIV: Supporting Moms throughout Pregnancy

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Continuing Education Disclosure

- The activity planners and speaker do not have any financial relationships with commercial entities to disclose.
- The speaker will not discuss any off-label use or investigational product during the program.

Objectives

- Develop patient centered, team based, treatment and delivery plans to prevent perinatal HIV Transmission
- Describe antiretroviral treatment and peripartum management of persons with HIV who are pregnant

HIV Transmission from Mother to Baby

An **HIV+ pregnant woman** can transmit HIV to her baby **3 WAYS**:

- During pregnancy
- During vaginal childbirth
- Through breastfeeding

- 25% risk of perinatal transmission in absence of therapy
  - 20% before 36 weeks
  - 50% between 36 weeks and delivery
  - 30% active labor and delivery
- Less than 1% risk if
  - Suppressive antiretroviral therapy (ART) throughout pregnancy
  - Postnatal infant antiretroviral prophylaxis
  - C-section & zidovudine (AZT) if indicated
  - Avoidance of breastfeeding

Connor EM et al. N Engl J Med.1994;331:1173-80.
Kourtis AT et al. JAMA. 2001;285;709-12.

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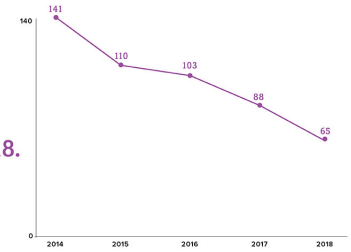
Diagnoses of Perinatal HIV Infections in the US and Dependent Areas, 2014-2018

HIV diagnoses declined 54% among children overall from 2014 to 2018.

CDC goal: less than 1 per 100,000 live births and < 1% among HIV exposed infants



Source: CDC. Diagnoses of HIV infection in the United States and dependent areas, 2018 (updated). *HIV Surveillance Report* 2020;31.

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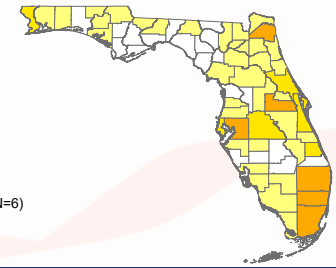
https://www.cdc.gov/hiv/group/gender/pregnantwomen/index.html

Perinatal HIV Exposures, Born in Florida, 2018

Perinatal HIV Exposures
State Total N=497

- 0
- 1–10
- 11–30
- 31–90



N=8
- Pediatric HIV (not AIDS) (N=6)
- Pediatric AIDS (N=2)

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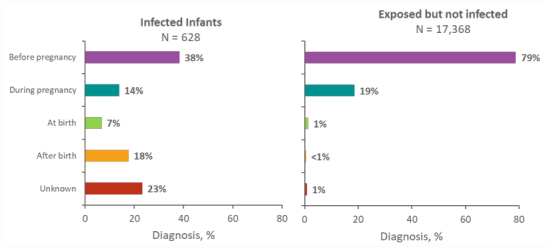
Poll

- At what time were the majority of the pregnant patients in your practice diagnosed with HIV?

A. Prior to pregnancy
B. During pregnancy
C. At the time of birth or after giving birth

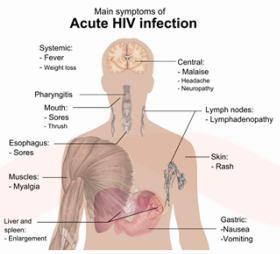
Time of Maternal HIV Testing among Children with Diagnosed Perinatally Acquired HIV Infection and Children Exposed to HIV, Birth Years 2010-2016—United States and Puerto Rico



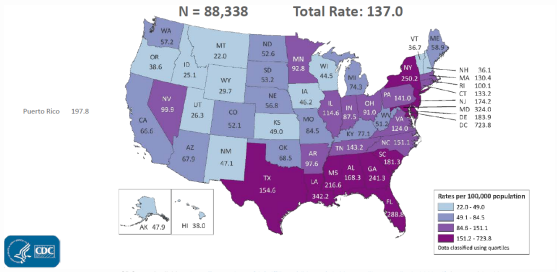
CDC. Pediatric HIV Surveillance 2018 (preliminary) available at https://www.cdc.gov/hivlibrary/slidesets/index.html. Accessed 3.6.20.

Screening for HIV

- At presentation for pregnancy care
- Repeat in 3rd trimester
- At labor and delivery if HIV status is unknown
- Signs or symptoms of acute HIV if pregnant or breastfeeding
  - Check HIV viral load as well as 4th generation Ag/Ab test



Rates of Females Aged 15-44 Years Living with Diagnosed HIV Infection by Area of Residence, 2017



CDC.gov. Available at https://www.cdc.gov/hiv/pdf/library/slidesets/cdc-hiv-surveillance-pediatric-2018.pdf. Accessed 3.7.20.

Poll

- Are you able to discuss family planning issues with your patients at their appointments?

A. Yes

B. Yes – if there is time

C. No –this is addressed by other providers (OB, PCP, Family Planning

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Recommendations for the Use of Antiretroviral Drugs in Pregnant Women with HIV Infection *and* Interventions to Reduce Perinatal HIV Transmission in the United States

Developed by the HHS Panel on Treatment of Pregnant Women with HIV Infection and Prevention of Perinatal Transmission— A Working Group of the Office of AIDS Research Advisory Council (OARAC)

https://clinicalinfo.hiv.gov/en/guidelines

CLINICAL INFO HIV.gov

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Family Planning

- Women with HIV can use all available contraceptive methods, including hormonal contraception
  - Watch for potential interactions between antiretrovirals and hormonal contraceptive that could lower contraceptive efficacy

Table 3. Drug Interactions Between Antiretroviral Agents and Hormonal Contraceptives (page 8 of 8)

ARV Drug	Effect on Contraceptive Drug Levels and Contraceptive's Effects on ART and HIV	Clinical Studies	Dosing Recommendation/ Clinical Comment for COC/P/R	Dosing Recommendation/ Clinical Comment for POPs	Dosing Recommendation/ Clinical Comment for DMPA[a]	Dosing Recommendation/ Clinical Comment for Etonogestrel Implants	Justification/ Evidence for Recommendation
INSTIs							
BIC/FTC/ TAF	No significant drug interactions with EE or norgestimate.	N/A	No additional contraceptive protection is needed.	No additional contraceptive protection is needed.	No additional contraceptive protection is needed.	No additional contraceptive protection is needed.	No clinical data.
DTG	COC: • No significant effect on norgestimate or EE • No change in DTG AUC[a]	N/A	No additional contraceptive protection is needed.	No additional contraceptive protection is needed.	No additional contraceptive protection is needed.	No additional contraceptive protection is needed.	For COCs, no change in EE or progestin. No clinical data. No data on POPs.
EVG/c	COC:	N/A	No additional contraceptive	No additional contraceptive	No additional contraceptive	No additional contraceptive	When administered as the four-drug regimen

Preconception Counseling and Care

- Discuss reproductive desires of all women of childbearing age on an ongoing basis throughout the course of their care
- Discuss contraceptive options & safer sex practices
- Encourage elimination of alcohol, tobacco and other drugs of abuse or counsel on how to manage health risks
  - Methadone or buprenorphine
  - Syringe services programs

https://clinicalinfo.hiv.gov/en/guidelines/perinatal/

Preconception Counseling and Care

- Women with HIV should attain maximal viral suppression before attempting conception for their own health, to prevent sexual transmission of HIV to partners without HIV and to minimize the risk of perinatal transmission to the infant
- It is important to counsel and allow informed decision-making regarding all antiretroviral regimens with people with HIV

https://clinicalinfo.hiv.gov/en/guidelines/perinatal/

Preconception Counseling and Care

- Consider antiretroviral effectiveness, comorbidities, and teratogenic potential of drugs in antiretroviral regimens as well as possible adverse outcomes for the mother and fetus

AETC Southeast https://clinicalinfo.hiv.gov/en/guidelines/perinatal/

Pre-Conception Considerations When One or Both Partners Live with HIV

- Both partners should be screened and treated for genital tract infections before attempting conception
- Infected partners should attain maximal virologic suppression before trying to conceive

DHHS.gov. HIV Perinatal Guidelines. Updated 1.17.20. Available at https://aidsinfo.nih.gov/guidelines/html/3/perinatal-guidelines/0.

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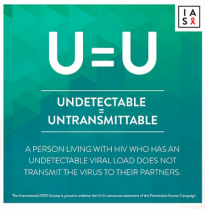
Pre-Conception Considerations

- For couples with differing HIV statuses, sexual intercourse without a condoms allows for conception with effectively no risk of sexual HIV transmission to the partner without HIV when the partner is on ART and has achieved sustained viral suppression
- Timing condomless sex with ovulation can optimize probability of conception



DHHS.gov. HIV Perinatal Guidelines. Updated 1.17.20. Available at https://aidsinfo.nih.gov/guidelines/html/3/perinatal-guidelines/0.

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July 2020

HIV Treatment Can Prevent Sexual Transmission

People with HIV should take medicine to treat HIV as soon as possible to

- Improve their own health, and
- Prevent transmitting HIV to other people.

HIV medicine can reduce the amount of HIV in the blood (also called **viral load**).
HIV medicine can make the viral load so low that a test can't detect it.
This is called **undetectable viral load.**

Having an undetectable viral load (or staying virally suppressed*) is the best thing people with HIV can do to stay healthy. If their viral load stays undetectable, they have **effectively no risk** of transmitting HIV to an HIV-negative partner through sex.

If you have HIV and want to get and keep an undetectable viral load, you will need to

- **Take medicine daily as prescribed.** Most people can get virally suppressed within 6 months of starting treatment. Missing some doses can increase your viral load and the risk of transmitting HIV. Talk to your health care provider about ways to follow your treatment plan.
- **See your provider regularly to check your viral load.** Not everyone taking HIV medicine has an undetectable viral load. The only way to know if you have an undetectable viral load is by getting tested regularly.

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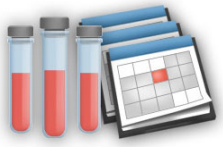
https://www.cdc.gov/hiv/pdf/library/consumer-info-sheets/cdc-hiv-consumer-info-sheet-treatment-can-prevent-sexual-transmission.pdf

Pre-exposure Prophylaxis



PrEP IS AN HIV PREVENTION METHOD IN WHICH PEOPLE WHO DO NOT HAVE HIV INFECTION TAKE A PILL DAILY TO REDUCE THEIR RISK OF BECOMING INFECTED

ONLY PEOPLE WHO ARE HIV-NEGATIVE SHOULD USE PrEP. AN HIV TEST IS REQUIRED BEFORE STARTING PrEP AND THEN EVERY 3 MONTHS WHILE TAKING PrEP.

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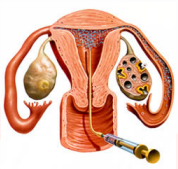
http://aids.gov/hiv-aids-basics/prevention/reduce-your-risk/pre-exposure-prophylaxis

Serodifferent Couples
Woman Living With HIV

- If attempting to conceive without condoms, test the uninfected male partner for HIV every 3 months
- Assisted insemination at home or in a provider's office with a partner's semen during the peri-ovulatory period is an option for conception



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Serodifferent Couples
Man Living with HIV

- Donor sperm from an HIV-uninfected man with artificial insemination
- Semen preparation techniques ("sperm washing") coupled with either intrauterine insemination or *in vitro* fertilization
- Women without HIV who have sex partners living with HIV should be tested every trimester

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Care for the Pregnant Woman Living with HIV

Antiretroviral Therapy in Pregnancy

- Start as soon as possible, regardless of HIV RNA level of CD4 count - even prior to results of genotype
  - For health of the mother of the baby and to prevent perinatal HIV transmission and secondary sexual transmission
  - Modify therapy later if needed
  - Goal: Maintain HIV viral load level below the limit of detection during pregnancy and postpartum and throughout life

DHHS.gov. HIV Perinatal Guidelines. Updated 1.17.20. Available at https://aidsinfo.nih.gov/guidelines/html/3/perinatal-guidelines/0.

Antiretroviral Therapy in Pregnancy Key Points

1. In most cases, women who present for obstetric care on fully suppressive HIV therapy should continue their current regimen
2. The same regimens recommended for treatment of nonpregnant adults should be used in pregnant people when sufficient data suggests appropriate drug exposure, efficacy, and safety
3. There are often incomplete data on safety of HIV drugs in pregnancy

Medications in Pregnancy

- Many physical changes occur in pregnancy that affect drug pharmacokinetics
  - Decrease in serum proteins
  - Increased plasma volume
  - Increase in kidney filtration
  - Delayed stomach emptying
- What does this mean for the pregnant woman?
  - May have to take higher doses or take ART more often to get good blood and placental levels

Antiretrovirals Not Recommended In Pregnancy

- Cobicistat containing regimens due to pharmacokinetic changes that can reduce medication efficacy
  - (Atazanavir/c, darunavir/c, elvitegravir/c)
- Two drug therapy, or single class regimen
- Stavudine (d4T)
- Didanosine (ddI)
- Treatment dose ritonavir (600 mg BID)

Toxicity Risks

DHHS.gov. HIV Perinatal Guidelines. Updated 1.17.20. Available at https://aidsinfo.nih.gov/guidelines/html/3/perinatal-guidelines/0.

Preferred Initial Therapy for Antiretroviral Naïve Pregnant Women

2 NRTIs + **PI/r** **OR** **INSTI**

NRTI = Nucleoside Reverse Transcriptase Inhibitor
PI/r = Ritonavir boosted protease inhibitor
INSTI = Integrase Strand Transfer Inhibitor

DHHS.gov. HIV Perinatal Guidelines. Updated 1.17.20. Available at https://aidsinfo.nih.gov/guidelines/html/3/perinatal-guidelines/0.

Preferred 2-NRTI Backbone

1. **Abacavir/lamivudine (Epzicom®)**
   - Must be HLA-B*5701 negative
   - If HIV viral load > 100,000 don't combine with atazanavir or efavirenz
2. **Tenofovir (TDF)/emtricitabine (Truvada®) Or tenofovir (TDF) + lamivudine (3TC)**
   - Also treats Hepatitis B
   - Associated with potential renal toxicity

DHHS.gov. HIV Perinatal Guidelines. Updated 1.17.20. Available at https://aidsinfo.nih.gov/guidelines/html/3/perinatal-guidelines/0.

Preferred Protease Inhibitors

- **Atazanavir/r (Reyataz® + Norvir®)**
  - 300 mg once daily + ritonavir 100 mg daily with food – many would increase atazanavir dose to 400 mg daily in 2nd and 3rd trimesters
  - Maternal hyperbilirubinemia but no clinically significant neonatal hyperbilirubinemia or kernicterus
  - Interactions with acid reducing agents
  - Requires food for absorption
- **Darunavir/r (Prezista® + Norvir®)**
  - **Dose in pregnancy:** darunavir 600 mg + ritonavir 100 mg twice daily with food

DHHS.gov. HIV Perinatal Guidelines. Updated 1.17.20. Available at https://aidsinfo.nih.gov/guidelines/html/3/perinatal-guidelines/0.

Preferred Integrase Inhibitors

- **Raltegravir (Isentress®)**
  - Must be dose twice daily
    - HD formulation not studied in pregnancy
  - Few drug interactions
- **Dolutegravir**
  - Dose once daily
  - If use fixed dose combination ABC/3TC/DTG (Triumeq®), must have negative HLA-B*5701
- Rapidly decrease HIV viral load
- Specific timing and/or fasting recommendations if taken with calcium or iron

DHHS.gov. HIV Perinatal Guidelines. Updated 1.17.20. Available at https://aidsinfo.nih.gov/guidelines/html/3/perinatal-guidelines/0.

Dolutegravir Use in Pregnancy or In Women Trying to Conceive

- Small but significant increase in risk of infant neural tube defects among women taking dolutegravir when they became pregnant compared to women who conceived on a non-dolutegravir containing regimen
- Increased risk of infant neural tube defects has not been found in women who start dolutegravir during pregnancy
- Summary: Risk of dolutegravir use is small, benefits of dolutegravir include once-daily dosing, generally well tolerated, rapidly suppresses HIV viral load

DHHS.gov. HIV Perinatal Guidelines. Updated 1.17.20. Available at https://aidsinfo.nih.gov/guidelines/html/3/perinatal-guidelines/0.

Dolutegravir Use in Pregnancy or In Women Trying to Conceive

- DHHS Perinatal Guideline position on dolutegravir use in pregnancy
  - Preferred antiretroviral throughout pregnancy
  - Alternative antiretroviral in women who are trying to conceive
  - Use of dolutegravir should be accompanied by appropriate counseling to allow patients and healthcare providers to make joint decisions about treatment
  - Appendix D. Dolutegravir Counseling Guide for Health Care Providers

https://clinicalinfo.hiv.gov/en/guidelines/perinatal/appendix-d-dolutegravir-counseling-guide-health-care-providers?view=full

Monitoring of HIV During Pregnancy

- HIV viral load testing
  - Initial visit
  - 2-4 weeks after starting or changing ART
  - Monthly until HIV viral load is below limit of detection of test
  - Every 3 months during pregnancy
  - 34-36 weeks' gestation to inform delivery decisions
- Antiretroviral resistance testing
  - Prior to starting ART if never on treatment
  - Prior to changing regimen if HIV RNA above threshold for resistance testing (> 500 to 1,000 copies/mL)

What if virologic suppression is not attained?

1. Test for drug resistance
2. Assess drug adherence, tolerability, dosing, potential problems with absorption, lack of attention to food requirements
3. Consideration of ART modification

Adherence to ART, labs and appointments (both OB and HIV care) are critical to success in preventing mother to child transmission!

DHHS.gov. HIV Perinatal Guidelines. Updated 1.17.20. Available at https://aidsinfo.nih.gov/guidelines/html/3/perinatal-guidelines/0.

Delivery: Suppressed VL

- Continue maternal ART through delivery
- Scheduled cesarean delivery performed solely for prevention of perinatal transmission in women receiving ART with HIV RNA ≤1,000 copies/mL **is not routinely recommended** given the low rate of perinatal transmission in this group

https://clinicalinfo.hiv.gov/sites/default/files/inline-files/AdultandAdolescentGL.pdf

Virologic Failure Near Delivery

- HIV RNA > 1,000 copies/mL or unknown viral load
  - Scheduled cesarean section at 38 weeks
- Intravenous zidovudine : 2 mg/kg dose followed by a continuous infusion of 1 mg/kg/hour until delivery
  - Some providers would give IV zidovudine to if last HIV viral load > 50 or any concern for non-adherence

Case--LB

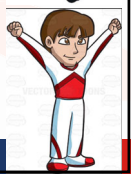
- 23 yo presents for prenatal care at 22 weeks gestation. She has not taken HIV medications for the prior year and adherence at that time was intermittent. Current viral load is 25,000, CD4 300. She lives with her boyfriend and her 3 yo son and is a full-time caregiver to her son. She has access to the Medicaid van but feels uncomfortable taking it to her appointments as she feels like her neighbors will "know something is going on." She currently has a working cell phone but has intermittent service. She is willing to take HIV medications but is not sure she will be able to pick them up regularly from her local pharmacy. Her boyfriend is not able to help with these issues and she is feeling particularly overwhelmed and isolated.

What steps can we take to support LB and help her to have a healthy pregnancy?

- Word cloud

Engaging Pregnant Women with HIV

- Involve their support system if patient allows!
  - Father of the baby, or current partner
  - Family
  - Friends
- Encourage linkage to a perinatal coordinator
- Encourage linkage to a peer
- Be available and answer questions
- Give hope



Support Pregnant Women with HIV So They Stay in Care and on Therapy

- Coordination of services helps!
  - Prenatal care providers
  - Primary care and HIV specialty care providers
  - Mental health and substance use disorder treatment, if needed
  - Intimate partner violence support services
  - Public assistance programs
- Telemedicine/Telephone visits

Access

- Mail order specialty pharmacy
- Local pharmacy—some offer mail service, how far from patient's home, are they able to walk there?
- 90-day supply of medications if insurance allows
- Simplify antiretroviral medication regimen if able
- Transportation: bus vouchers, gas cards
- Phone: https://www.accesswireless.com/lifeline

Keeping on track

- Pill box
- Bubble packs from pharmacies
- Setting alarm on phone/watch for reminder to take medications
- 90-day supply of medications if insurance allows

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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
CALL

http://nccc.ucsf.edu/clinician-consultation/perinatal-hiv-aids/

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