BEST PRACTICES: LABOR & DELIVERY CARE FOR PREGNANT PEOPLE WITH HIV AND CARE OF INFANTS WITH PERINATAL EXPOSURE TO HIV

1-800-439-4079

INTRAPARTUM AND POSTPARTUM CARE FOR PREGNANT PEOPLE WITH HIV, PEOPLE WITH A PRELIMINARILY POSITIVE RAPID HIV TEST, AND NEWBORNS WITH HIV EXPOSURE

PURPOSE

- To establish best practices for the delivery and postpartum care of people with HIV (PWH), including those with a preliminary positive rapid HIV test at L&D and newborns with HIV exposure.
- To establish guidelines for the determination of risk status and antiretroviral prophylaxis for infants with perinatal exposure to HIV, including management for breastfeeding infants.

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I. Considerations for LABOR and DELIVERY

A. All pregnant people in Illinois should receive HIV counseling and opt-out testing two times during pregnancy (as early in pregnancy as possible and again in the third trimester). The third trimester test should be done between the 27th week of pregnancy and delivery, preferably before 36 weeks of pregnancy to optimize confirmatory testing and initiation of interventions.

B. Any pregnant person who does not have documentation of a negative HIV test result from after 27 weeks of the current pregnancy must be offered a rapid HIV test upon admission, ideally a combination HIV-1/2 antigen/antibody test. A rapid HIV test is a screening test that produces an expedited result. These tests can be rapid point-of-care tests or instrumented, laboratory-based tests, but they must result within 60 minutes. A rapid/expedited HIV test that is positive/reactive is considered "preliminarily positive" because supplemental tests are needed to confirm an HIV diagnosis.

- ***Per Illinois law, the Illinois Perinatal HIV Hotline must be called within 12 hours, but no later than 24 hours, of the test result for all pregnant people and exposed newborns found to be preliminarily positive with rapid HIV testing.***
- ***It is recommended that the Hotline be called as soon as the positive rapid test is resulted. The Hotline can provide care recommendations, advise on supplemental HIV tests to confirm HIV status, and link people to case management services.***

C. When a pregnant PWH **arrives** in L&D (or at the time of a positive rapid HIV test result), notify an obstetrician with expertise in HIV perinatology or an infectious disease specialist. The **24/7 Illinois**

Perinatal HIV Hotline (1-800-439-4079) is available to provide consultation if no hospital-based specialist experienced in perinatal HIV is available.

D. The Hotline recommends that for all pregnant PWH, regardless of HIV RNA level (viral load), intravenous (IV) zidovudine (ZDV, also known as AZT) be started as soon as possible after the person presents in labor. Similarly, if a scheduled cesarean delivery is planned, the Hotline recommends that people receive IV ZDV for at least 3 hours prior to surgery regardless of viral load. The IV ZDV infusion provides the infant with pre-exposure ZDV prophylaxis that will continue as post-exposure prophylaxis after birth while the infant receives oral prophylaxis.

- The Hotline views the use of intrapartum IV ZDV regardless of viral load to be consistent with and complementary to the recommendation for postnatal ZDV. The Hotline acknowledges these recommendations differ from but are not inconsistent with the Department of Health and Human Services (DHHS) Perinatal Guidelines. These guidelines state the following: "IV ZDV is **not** required for individuals who meet **ALL** of the following three criteria: (1) are receiving ART (antiretroviral therapy), (2) have HIV RNA <50 copies/mL within 4 weeks of delivery, and (3) are adherent to their ARV regimen. However, a study showing that 6 percent of women with suppressed HIV RNA levels during pregnancy had viral load rebound near delivery highlights the importance of using clinical judgement when making the decision to use intrapartum IV ZDV, regardless of the patient's viral load. The additional benefit of IV ZDV in women who are receiving ART and are virally suppressed (HIV RNA <50 copies/mL) has not been evaluated in randomized clinical trials."

- The Hotline recommends use of intrapartum IV ZDV due to 1) methodological limitations of the current evidence that led to the policy change, 2) the complementary benefit of both pre- and post-exposure prophylaxis for individuals at risk of HIV acquisition, and 3) the public health benefit of simple and consistent messaging across hospital systems that ensures consistent access to ZDV for intrapartum prophylaxis.

- ZDV dosage is based on the person's weight. People admitted in pre-term labor with a significant chance of delivery should be started on IV ZDV immediately.
    - IV ZDV dosing is as follows: 2 mg/kg loading dose over 1 hour followed by 1 mg/kg/hour maintenance infusion until the cord is clamped.
    - **ZDV is not compatible with all medications.** Please check with pharmacy before running ZDV in the same line with other medications.
    - In situations where IV ZDV is not available, the 24/7 Illinois Perinatal HIV Hotline should be consulted as soon as possible.

E. Invasive procedures should be avoided if possible (fetal scalp electrodes, fetal scalp blood sampling, and operative vaginal delivery). Artificial rupture of membranes (AROM) may be considered for standard obstetric indications in people with HIV RNA <50 copies/mL who are on ART. AROM should be avoided in people with HIV RNA ≥50 copies/mL, unless there is a clear obstetric indication.

F. Route of delivery for a person previously diagnosed with HIV is determined by the person's level of viral suppression.

- Cesarean delivery should be offered to people with clinically significant viral loads (>1000 copies/ml) as cesarean delivery is associated with a reduced risk of transmission when performed prior to active labor and rupture of membranes. People who are scheduled for cesarean delivery should receive IV ZDV for at least 3 hours prior to surgery.
- For people with undetectable or low viral loads (<1000 copies/ml) and receiving ART, the risks of cesarean delivery may outweigh any theoretical benefit of reduced transmission. The 24/7 Illinois Perinatal HIV Hotline is available for consultation regarding mode of delivery.

G. Route of delivery should be carefully considered for people who test preliminarily positive in labor by a rapid HIV test and whose confirmed HIV status is unknown.

- If the person is confirmed to have HIV infection and has not received ART, a cesarean delivery performed early in labor with intact membranes may still be beneficial.
- Consultation should be sought with a Maternal-Fetal Medicine or Infectious Disease Specialist experienced in perinatal HIV. The 24/7 Illinois Perinatal HIV Hotline is available for this consultation. For example, in an individual with a preliminarily or known positive HIV test result whose membranes are ruptured and transition to active labor has occurred, there may be little benefit to cesarean delivery for the purpose of prevention of HIV transmission.

H. If the pregnant person does not have documentation of a negative HIV test result from 27w0d or later in the current pregnancy and refuses HIV testing for themselves, **then their newborn must be administered a rapid HIV test according to Illinois law**. It is not necessary to do a rapid HIV test on a newborn if the birthing parent was previously diagnosed with HIV or has already been administered a rapid test. When rapid HIV tests are performed on newborns, they may need to be performed "off-label", as the tests are for individuals over age 2 years; this is acceptable and appropriate, as the test is not testing for neonatal infection, but rather is testing for maternal antibodies, which would indicate HIV exposure.

II. Considerations for BIRTHING PARENT-BABY RECOVERY

A. Newborns should be given an early bath.

- They should be suctioned and bathed as soon as possible to remove maternal blood contamination **before** vitamin K and antibiotic eye prophylaxis (erythromycin) administration. This early infant bath should occur in the delivery room if possible and should be documented in the medical record.
- If Narcan or other medications need to be given urgently, cleanse the site with alcohol followed by Betadine prior to injection.

B. Newborns should be assessed for risk of HIV acquisition and antiretroviral management. **See Section III. Considerations for Newborns with Perinatal (*In Utero* or Intrapartum) HIV Exposure.**

- If presumptive HIV therapy using a three-drug regimen is indicated, the pharmacy should be notified of the need for ZDV and 3TC plus either DTG or NVP.

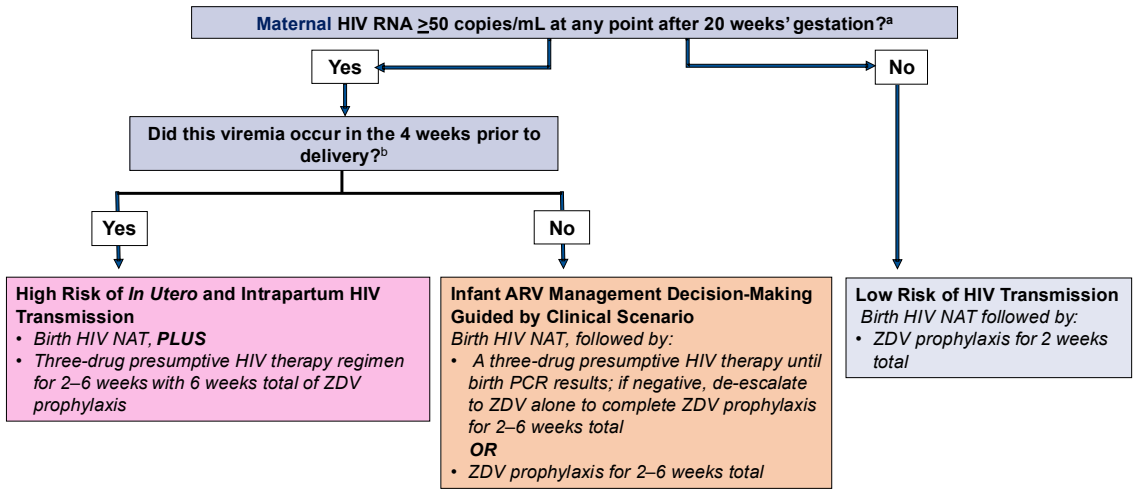
- Infant ZDV syrup and other antiretroviral medications should be given as soon as possible after birth, **with the goal of within 1 hour**. The pharmacy should be notified of the imminent need for a stat ZDV syrup order when the pregnant PWH is admitted to Labor and Delivery.
- For questions or more information, call the Hotline at 1-800-439-4079.

III. Considerations for NEWBORNS WITH PERINATAL (*IN UTERO* OR INTRAPARTUM) HIV EXPOSURE

A. DETERMINATION OF RISK FOR INFANT HIV ACQUISITION

- Selection of ARV regimen for infants with perinatal (*in utero* or intrapartum) HIV exposure should be based on the risk for HIV acquisition which is associated with the birthing parent's HIV RNA levels and gestational timing of viremia.
- Infants at high risk for perinatal HIV infection are those born to a pregnant person with viremia (HIV RNA ≥50 copies/mL) in the 4 weeks prior to delivery.
- Infants at low risk for perinatal HIV infection are those born to a pregnant person with virologic suppression (HIV RNA <50 copies/mL) from 20 weeks gestation through delivery.
- Infants not meeting criteria for high or low risk may be considered as other clinical scenarios which warrant consideration based on case-specific factors.
- Figure 1 outlines an approach to identifying risk and subsequent ARV management of infants with perinatal HIV exposure.

Figure 1. Algorithm for Antiretroviral Management of Infants With *In Utero* or Intrapartum HIV Exposure by Risk of HIV Transmission



Adapted from the U.S. Department of Health and Human Services (DHHS) Recommendations for the Use of Antiretroviral Drugs During Pregnancy and Interventions to Reduce Perinatal HIV Transmission in the United States

[a] Early (acute or recent) HIV infection in pregnancy may result in a scenario where viremia occurs early in gestation but is suppressed after 20 weeks and through the remainder of pregnancy until delivery. In these situations, decision-making guided by the clinical scenario is recommended.

[b] If HIV RNA testing was not performed in the 4 weeks prior to delivery, clinical judgement, based on prior viral loads and adherence history, is recommended.

Key: 3TC = lamivudine; ARV = antiretroviral; NAT = nucleic acid test; NVP = nevirapine; PCR = polymerase chain reaction; ZDV = zidovudine

B. ARV MANAGEMENT OF INFANTS WITH PERINATAL HIV EXPOSURE

- Infants at high risk of perinatal HIV infection should receive birth HIV nucleic acid testing (NAT) and a 3-drug ARV regimen from birth for 2-6 weeks. If the 3-drug regimen is <6 weeks, ZDV should be continued alone to complete a total of 6 weeks.
- Infants at low risk of perinatal HIV infection should receive ZDV alone for 2 weeks.
- Infants not meeting criteria for high or low risk should be managed based on clinical factors with either of two options:
    - Birth HIV NAT, followed by 3-drug ARV regimen for 2-6 weeks. If the birth NAT is negative, de-escalate to ZDV alone to complete 2-6 weeks,
      OR,
    - ZDV alone for 2-6 weeks total

C. TESTING AND MONITORING OF INFANTS WITH PERINATAL HIV EXPOSURE

- Infants at high risk for perinatal HIV acquisition should receive HIV NAT* at the following intervals:
    - Birth
    - 2 weeks of age
    - 4 weeks
    - 8 weeks of age (at least 2 weeks after completing ARVs)
    - 4-6 months of age
    - Infants at high risk for perinatal HIV infection should also receive:
        - Urine or saliva CMV PCR before 3 weeks of age
- Infants at low risk for perinatal HIV infection should receive HIV NAT (HIV RNA PCR or DNA PCR) at the following intervals:
    - Birth
    - 2-3 weeks of age
    - 4-8 weeks of age
    - 4-6 months of age
- Any infant with a positive NAT should be immediately referred to a pediatric HIV specialist.
- Infants may be discharged from HIV specialty care if all the above HIV NAT assays are negative.

Table 1. Antiretroviral Management for Infants with *In Utero* or Intrapartum Exposure to HIV

ZDV=Zidovudine or AZT; 3TC=Lamivudine; NVP=Nevirapine; RAL=Raltegravir; DTG=Dolutegravir

Clinical Setting	Risk of Acquisition		Neonatal ARV Management[a,b]
	In Utero	Intrapartum	
High Risk of Acquisition			
HIV RNA ≥50 copies/mL in the 4 weeks prior to delivery Viremia can be documented by lab or presumed by other clinical factors (e.g., new diagnosis, ART adherence problems, reports of having stopped ART prior to delivery).	**High**	**High**	Presumptive HIV therapy using a three-drug regimen of ZDV and 3TC plus DTG *or* NVP (treatment dose). Duration is from birth for 2-6 weeks. If the duration of a three-drug regimen is <6 weeks and the birth PCR is negative, ZDV should be continued alone to complete a total of 6 weeks of prophylaxis.[c] HIV PCR obtained before or immediately after starting presumptive therapy with three drugs.[a,d]
Low Risk of Acquisition			
HIV RNA <50 copies/mL from 20 weeks' gestation through delivery Ideally documented by at least two consecutive tests at least four weeks apart with HIV RNA <50 copies/mL but can be based on clinical judgment of providers.	**Low**	**Low**	ZDV for 2 weeks If extended prophylaxis with NVP during breastfeeding is planned, the Panel recommends initiating NVP from birth in place of ZDV; alternatively, 3TC may be initiated after completion of ZDV.
Other Clinical Scenarios			
HIV RNA ≥50 copies/mL at >20 weeks' gestation, but HIV RNA <50 copies/mL in the 4 weeks prior to delivery	**Low to Moderate**	**Low**	**HIV NAT at Birth[a,d]** Two Options for ARV Management 1. Presumptive HIV therapy with a three-drug regimen (composed of ARVs described above for infants at high risk). If the birth HIV PCR is negative, de-escalate to ZDV alone to complete ZDV prophylaxis for 2–6 weeks total.[c] **OR** 2. ZDV prophylaxis for 2–6 weeks If extended prophylaxis with NVP during breastfeeding is planned, the Panel

Clinical Setting	Risk of Acquisition		Neonatal ARV Management[a,b]
	In Utero	**Intrapartum**	
			recommends initiating NVP from birth in place of ZDV; alternatively, 3TC may be initiated after completion of ZDV.
Early (acute or recent) HIV at any point during pregnancy	**Moderate to High** (depending on the birthing parent's HIV RNA levels and weeks' gestation)	**High** (if HIV RNA ≥ 50 copies/mL in the last 4 weeks of pregnancy)	**HIV NAT at Birth[a,d]** Manage infant ARVs according to the level and timing of the birthing parent's viremia as described in the rows above (just as for an infant exposed to established infection).
Birthing parent with unconfirmed HIV status and who has at least one positive HIV test at delivery or postpartum Or Newborn has a positive HIV antibody test	**High/ Uncertain**	**High/ Uncertain**	**HIV NAT at Birth[a,d]** Presumptive HIV therapy with a three-drug regimen as described above for newborns with a high risk of *in utero* or intrapartum HIV acquisition If supplemental testing confirms a negative birthing parent HIV status, discontinue infant ARV drugs immediately.

[a] Infant ARVs should be initiated in the first 6 hours after delivery, especially for infants with a high risk of acquisition. All infants at high risk of perinatal HIV transmission should have specimens for HIV testing at birth before or immediately after initiating an ARV drug regimen; however, presumptive HIV therapy should not be delayed. See Table 3 for ARV dosing.

[b] If the birthing parent has HIV-2 infection or HIV-1 and HIV-2 coinfection, the infant ARV regimen should be based on the determination of low or high risk of HIV-1 transmission as described in the above table using ARVs that are active against HIV-2. Because HIV-2 is not susceptible to NVP, DTG should be used in presumptive HIV therapy regimens for infants at high risk of HIV acquisition with exposure to HIV-2 or to both HIV-1 and HIV-2.

[c] The optimal duration of three-drug regimen in newborns who are at a high risk for HIV acquisition is unknown. Newborns who are at a high risk for HIV acquisition should receive the ZDV component for 6 weeks. The other two ARVs (3TC and NVP) or (3TC and DTG) may be administered for 2 to 6 weeks; the recommended duration for treatment with three ARVs varies depending on infant HIV NAT results, the birthing parent's viral load at the time of delivery, and the additional risk factors for HIV transmission. Consultation with an expert in pediatric HIV is recommended when selecting a therapy duration because this decision should be based on case-specific risk factors and interim infant HIV NAT results.

[d] When a newborn HIV NAT is positive, infant ART should be initiated without waiting for the results of confirmatory HIV NAT testing, given the low likelihood of a false-positive HIV NAT

Table 2: Recommended Virologic Testing Schedules for Infants with Perinatal and Breastfeeding Exposure to HIV

Infants With Perinatal HIV Exposure (Including Exposure Through Breastfeeding)	
Time Period	**Age at HIV NAT[b,c] Testing**
Birth to 6 months (whether breastfeeding or not)	**Birth** (see note below if Low Risk[a]) **14–21 days** **1–2 months** **2–3 months** (see note below) **4–6 months** **Note:** A test generally should be performed at birth, but beginning testing at 14-21 days could be appropriate for infants at Low Risk[a] of HIV acquisition where loss to follow-up is not a concern. **Note:** For breastfeeding infants and infants with Indeterminate or High Risk[a] of HIV acquisition, 2–3 months testing is indicated if the gap between the tests at age 1–2 months and 4–6 months is greater than 3 months. For all infants, additional virologic testing is recommended 2–6 weeks after infant ARV drugs are discontinued (i.e., at age 2–3 months if the infant receives 6 weeks of ARV drugs). All infants at High Risk[a] of perinatal HIV transmission should have specimens obtained for HIV testing at birth before or immediately after initiating an ARV drug regimen; however, presumptive HIV therapy should not be delayed. If an infant's NAT test result is positive, a repeat test should be performed as soon as possible and ART promptly initiated.
If breastfeeding beyond 6 months	At least every 3 months during breastfeeding
At cessation of breastfeeding (regardless of when breastfeeding ends)	At 4 to 6 weeks after cessation of breastfeeding At 3 months after cessation of breastfeeding **Note:** If the infant is receiving ARV prophylaxis during the breastfeeding period and one of the tests is <2 weeks after cessation of prophylaxis but completed within 4–6 weeks after cessation of breastfeeding, an additional test is needed 2–6 weeks after completion of ARV prophylaxis.
If maternal viremia develops while breastfeeding (a detectable maternal viral load)	Prompt NAT testing of the infant Additional testing time points are based on the clinical scenario and use of infant ARV prophylaxis or presumptive HIV therapy; see Table 4: Antiretroviral Management of Infants with Exposure to HIV During Breastfeeding

	If there is a detectable maternal viral load and breastfeeding continues, some Panel members would recommend monthly virologic testing of the infant as an approach to early detection of HIV infection during ongoing exposure. Consultation with an expert is recommended to determine the need for infant ARV prophylaxis or presumptive HIV therapy and additional testing time points.
See Table 11 and Table 11.1 in Antiretroviral Management of Infants With In Utero, Intrapartum, or Breastfeeding Exposure to HIV for information about presumptive HIV therapy and ZDV prophylaxis, including duration of ARV drugs. Consultation with an expert and/or the Illinois Perinatal HIV Hotline (1-800-439-4079) is recommended for questions about HIV diagnostic testing for infants with perinatal HIV exposure who are being breastfed. See Table 4 for information about extended ARV prophylaxis and presumptive HIV therapy during breastfeeding. See Preventing HIV Transmission During Infant Feeding for additional guidance about breastfeeding.	

[a] This table summarizes standard time points for HIV virologic diagnostic testing of infants according to risk of perinatal acquisition. **High Risk** is defined as maternal viremia (HIV RNA viremia [HIV RNA ≥50 copies/mL]) in the 4 weeks prior to delivery, acute or recent HIV during pregnancy, or HIV diagnosed in labor or postpartum. Viremia can be documented by a laboratory or presumed by other clinical factors (e.g., new diagnosis, ART adherence challenges, stopping ART prior to delivery). **Low Risk** is defined as sustained maternal viral suppression (<50 copies/mL) from 20 weeks of gestation through delivery. Ideally, sustained viral suppression is documented by HIV RNA testing, including at least two consecutive tests obtained at least 4 weeks apart with HIV RNA <50 copies/mL, but can be based on the clinical judgment of providers. **Indeterminate Risk** is defined as infants not meeting criteria for High Risk or Low Risk of HIV acquisition.

[b] HIV RNA or HIV DNA NATs that directly detect HIV.

[c] If maternal HIV-2 infection is suspected or confirmed, infant testing for HIV-2 can follow the same schedule.

Key: ART = antiretroviral therapy; ARV = antiretroviral; NAT = nucleic acid test; Panel = the Panel on Antiretroviral Therapy and Medical Management of Children Living With HIV and the Panel on Treatment of HIV During Pregnancy and Interventions to Reduce Perinatal Transmission; ZDV = zidovudine

Table 3. Drug Dosing Recommendations for Antiretroviral Prophylaxis and Presumptive HIV Therapy in Infants with *In Utero* or Intrapartum Exposure to HIV[a]

<table>
<tr><th>ARV Drug</th><th>Drug Doses by Gestational Age at Birth</th></tr>
<tr><td>ZDV

Note: For newborns who are unable to tolerate oral agents, the IV dose is 75% of the oral dose while maintaining the same dosing interval.</td><td>≥35 Weeks of Gestation at Birth

Birth to Age ≤6 Weeks
• ZDV 4 mg/kg per dose orally twice daily or alternative simplified weight-band dosing (see table below)

Simplified Weight-Band Dosing for Newborns Aged ≥35 Weeks of Gestation From Birth to 4 Weeks
<table>
<tr><th>Weight Band</th><th>Volume of ZDV 10 mg/mL Oral Syrup Twice Daily</th></tr>
<tr><td>2 kg to <3 kg</td><td>1 mL</td></tr>
<tr><td>3 kg to <4 kg</td><td>1.5 mL</td></tr>
<tr><td>4 kg to <5 kg</td><td>2 mL</td></tr>
</table>
≥30 Weeks to <35 Weeks of Gestation at Birth

Birth to Age <2 Weeks
• ZDV 2 mg/kg per dose orally twice daily

Age 2 Weeks to ≤6 Weeks
• ZDV 3 mg/kg per dose orally twice daily

<30 Weeks of Gestation at Birth

Birth to Age < 4 Weeks
• ZDV 2 mg/kg per dose orally twice daily

Age 4 Weeks to ≤6 Weeks
• ZDV 3 mg/kg per dose orally twice daily</td></tr>
<tr><td>3TC
Only oral formulations of 3TC are available.</td><td>≥32 Weeks of Gestation at Birth

Birth to Age <4 Weeks
• 3TC 2 mg/kg per dose orally twice daily

Age ≥4 Weeks to ≤6 weeks
• 3TC 4 mg/kg per dose orally twice daily</td></tr>
</table>

ARV Drug	Drug Doses by Gestational Age at Birth
DTG[b]	**≥37 Weeks of Gestation at Birth and Weighing ≥2 kg** Birth to Age <2 Weeks • DTG 5 mg (dispersible tablet) orally **every other day** (i.e., approximately every 48 hours) Age ≥2 Weeks to <4 Weeks • DTG 5 mg (dispersible tablet) orally once daily **≥37 Weeks of Gestation at Birth and Weighing ≥2 kg to <6 kg** Age ≥4 Weeks to ≤6 Weeks 5 mg once daily **≥37 Weeks of Gestation at Birth and Weighing 6 kg to <10 kg** Age ≥4 Weeks to ≤6 Weeks 15 mg once daily
NVP[c] **Note:** These are NVP treatment doses for a presumptive HIV therapy regimen. Only oral formulations of NVP are available. NVP dosing for extended ARV prophylaxis during breastfeeding is provided in Table 4.	**≥37 Weeks of Gestation at Birth** *Birth to Age ≤6 Weeks* • NVP 6 mg/kg per dose orally twice daily
	≥34 Weeks to <37 Weeks of Gestation at Birth *Birth to Age <1 Week* • NVP 4 mg/kg per dose orally twice daily *Age ≥1 Week to ≤6 Weeks* • NVP 6 mg/kg per dose orally twice daily
	≥32 Weeks to <34 Weeks of Gestation at Birth *Birth to Age <2 Weeks* • NVP 2 mg/kg per dose orally twice daily *Age ≥2 Weeks to <4 Weeks* • NVP 4 mg/kg per dose orally twice daily *Age ≥4 Weeks to ≤6 Weeks* • NVP 6 mg/kg per dose orally twice daily

<table>
<tr><th>ARV Drug</th><th colspan="2">Drug Doses by Gestational Age at Birth</th></tr>
<tr><td rowspan="14">RAL

Only oral formulations of RAL are available.

Can be used as an alternative in cases where DTG is not available and an integrase strand transfer inhibitor (INSTI) is desired.</td><td colspan="2">≥37 Weeks of Gestation at Birth and Weighing ≥2 kg[d]
Birth to Age 6 Weeks</td></tr>
<tr><td>Body Weight</td><td>Volume (Dose) of RAL 10 mg/mL Suspension</td></tr>
<tr><td>Birth to 1 Week: Once-Daily Dosing</td><td>Approximately 1.5 mg/kg per dose</td></tr>
<tr><td>2 kg to <3 kg</td><td>0.4 mL (4 mg) once daily</td></tr>
<tr><td>3 kg to <4 kg</td><td>0.5 mL (5 mg) once daily</td></tr>
<tr><td>4 kg to <5 kg</td><td>0.7 mL (7 mg) once daily</td></tr>
<tr><td>1 to 4 Weeks: Twice-Daily Dosing</td><td>Approximately 3 mg/kg per dose</td></tr>
<tr><td>2 kg to <3 kg</td><td>0.8 mL (8 mg) twice daily</td></tr>
<tr><td>3 kg to <4 kg</td><td>1 mL (10 mg) twice daily</td></tr>
<tr><td>4 kg to <5 kg</td><td>1.5 mL (15 mg) twice daily</td></tr>
<tr><td>4 to 6 Weeks: Twice-Daily Dosing</td><td>Approximately 6 mg/kg per dose</td></tr>
<tr><td>3 kg to <4 kg</td><td>2.5 mL (25 mg) twice daily</td></tr>
<tr><td>4 kg to <6 kg</td><td>3 mL (30 mg) twice daily</td></tr>
<tr><td>6 kg to <8 kg</td><td>4 mL (40 mg) twice daily</td></tr>
</table>

[a] The optimal duration of three-drug regimens for newborns at high risk of HIV acquisition is unknown; all infants should receive the ZDV component of the three-drug regimen for 6 weeks. The other two ARVs, (3TC and NVP) or (3TC and DTG), may be administered for 2 to 6 weeks; the recommended duration for these ARVs varies depending on infant HIV NAT results, viral load of the birthing parent at the time of delivery, and additional risk factors for HIV transmission. Consultation with an expert in pediatric HIV is recommended when selecting a therapy duration because this decision should be based on case-specific risk factors and interim infant HIV NAT results.

[b] Please refer to Dolutegravir in the Pediatric ARV Guidelines for additional details about DTG dosing. Raltegravir can be used as *Alternative* in cases where DTG is not available and an integrase strand transfer inhibitor (INSTI) is desired; please see Raltegravir in the Pediatric ARV Guidelines for dosing.

[c] This NVP dosing for infants ≥32 to <37 weeks' gestation at birth is not approved by the FDA. The recommended doses for infants ≥32 to <34 weeks' gestation at birth are based on modeling and might underestimate potential toxicity in infants of 32 to <34 weeks gestational age because the doses used to develop the model were lower than the doses now recommended. See Nevirapine in Appendix A: Pediatric Antiretroviral Drug Information in the Pediatric Antiretroviral Guidelines for additional information about dosing.

[d] RAL dosing is increased at 1 week and 4 weeks of age because metabolism by UGT1A1 is low at birth and increases rapidly during the next 4 to 6 weeks of life. No dosing information is available for preterm infants or infants weighing <2 kg at birth. The current dosing regimen with two dose changes in the first month of life may be challenging for some families. To minimize dosing changes, some experts increase to the 3 mg/kg twice-daily dose upon discharge on day 4 or 5 of life.

IV. Considerations for POSTPARTUM CARE AND INFANT FEEDING

A. Postpartum Care

- Universal precautions should be reviewed prior to discharge with particular attention to vaginal bleeding and disposal of sanitary pads.
- Contraceptive and STI counseling should be performed prior to the person's discharge.
- Social work consultation is advised to address disclosure counseling and partner notification. Disclosure of HIV status is a sensitive issue and should be addressed in a confidential and non-judgmental manner.
- Follow-up appointments for the PWH and newborn must be scheduled prior to discharge. The Hotline is available to provide a list of resources for referral as well as case management for people at risk of loss to follow-up.
- For birthing parents or newborns with a preliminarily positive rapid HIV test, confirmatory HIV testing must be sent prior to discharge. **The positive rapid HIV test result must be reported to the 24/7 Illinois Perinatal HIV Hotline** (**800-439-4079**) **within 12 hours, but no later than 24 hours, of the test result.** Follow-up for this confirmatory testing is essential.

B. Infant Feeding

- Providers should routinely discuss infant feeding plans, ideally during antenatal care.
- Formula feeding is the only way to eliminate breastmilk transmission of HIV, however, if a PWH expresses interest in breastfeeding, non-judgmental counseling should be provided as outlined in the DHHS Perinatal Guidelines Infant Feeding for Individuals with HIV in the United States | NIH .
- If antiretroviral therapy (ART) is taken consistently and the viral load is maintained at a level of <50 copies/mL (i.e., undetectable viral load) for at least 3 months prior to delivery, counseling is recommended about the options of formula feeding, use of banked donor milk, or breastfeeding.
- **Clinicians should consult experts in pediatric HIV if a PWH chooses to breastfeed.**
- If a person with a preliminarily positive result from a rapid HIV test is awaiting confirmatory testing and desires to breastfeed, they can be offered the option of pumping and storing the breast milk until the confirmatory test results are available. This can be done to optimize development of a milk supply for someone who desires to breastfeed if the confirmatory HIV test result comes back negative. The person needs clear counseling regarding the importance of not using the breast milk to feed the baby until the confirmatory test result is negative.
- Engaging Child Protective Services or similar agencies is not an appropriate response if a PWH chooses to breastfeed.
- When lactation suppression is desired, PWH should be instructed in measures to suppress lactation such as supportive/tight bras, ice, or cold compresses and ibuprofen to reduce discomfort.
- Counseling against pre-mastication should be provided.

An HIV NAT at birth is recommended for all breastfeeding infants. A NAT should be obtained before or immediately after starting ARVs.

Table 4. Antiretroviral Management of Infants with Exposure to HIV During Breastfeeding

Level of Transmission Risk During Breastfeeding by HIV RNA Levels in Breastfeeding Parent	Infant ARV Management During Breastfeeding
Sustained Viral Suppression (HIV RNA <50 copies/mL measured twice at least 1 month apart) **and No Concerns About Future Risk**	• In infants at low risk of *in utero* or intrapartum transmission after completion of 2-week ZDV prophylaxis, options are: ○ no additional ARV prophylaxis ○ Extending prophylaxis with ZDV 4-6 weeks ○ *Extended prophylaxis:* ▪ If extended prophylaxis with NVP during breastfeeding is planned, the Panel recommends initiating NVP from birth in place of ZDV; alternatively, 3TC may be initiated after completion of ZDV. ▪ Extended prophylaxis with NVP or 3TC during breastfeeding to be continued until 4 weeks after last exposure to breast milk. Consult an expert if considering early discontinuation of extended prophylaxis.
Current HIV RNA Levels <50 copies/mL But Concerns About Future Risk	• Consider extended ARV prophylaxis with NVP or 3TC until 4 weeks after last exposure to breast milk. Provide added adherence support as indicated. • Consider prophylaxis cessation sooner if concerns about future risk for viremia resolved
New Viremia During Breastfeeding (HIV RNA ≥200 copies/mL) **or Presumed Viremia** (non-adherence, interrupted access to ARVs)	• Breastfeeding should be stopped temporarily or discontinued and replacement feeding initiated. • Consider permanent discontinuation of breastfeeding if HIV RNA ≥200 copies/mL; can consider resuming breastfeeding once re-suppressed. • Perform infant HIV NAT[a]. • Initiate presumptive HIV therapy using a three-drug regimen of either ZDV, 3TC, and DTG (treatment dose) or ZDV, 3TC, and NPV if DTG not available. • Duration 4 weeks after the last breastfeeding. • **Recommend consultation with the IL Perinatal HIV Hotline or a pediatric HIV specialist**
New Viremia During Breastfeeding (HIV RNA <200 copies/mL)	• Breastfeeding should be stopped temporarily or discontinued and replacement feeding initiated. • Perform infant HIV NAT[a]. • Consider initiation of presumptive ARV therapy (as described for new viremia ≥200 copies/mL, above); or initiation of single-drug ARV prophylaxis (see Table 5 below). • **Recommend consultation with the IL Perinatal HIV Hotline or a pediatric HIV specialist**

Level of Transmission Risk During Breastfeeding by HIV RNA Levels in Breastfeeding Parent	Infant ARV Management During Breastfeeding
Parent With a New Diagnosis of HIV When Breastfeeding	• Stop breastfeeding and initiate replacement feeding. • Perform infant HIV NAT[a]. • Initiate presumptive HIV therapy using three-drug regimen of ZDV, 3TC, and DTG. For infants aged <4 weeks, NVP (treatment dose if DTG is not available). See Table 5 for dosing information. • Duration 4 weeks. • **Recommend consultation with the IL Perinatal HIV Hotline or a pediatric HIV specialist**

[a] An HIV NAT at birth is recommended for all breastfeeding infants. A NAT should be obtained before or immediately after starting ARVs.

Table 5. Antiretroviral Prophylaxis Dosing for Breastfeeding Infants

ARV Prophylaxis for Infants When the Breastfeeding Parent has Sustained Viral Suppression	
Recommended Regimen	**Recommended Duration and Dosing**
ZDV	ZDV administered for 2 weeks after birth (see Table 3 for dosing)
Options for Extended Postnatal Prophylaxis	
Recommended Regimen	**Recommended Duration and Dosing**
NVP[a]	NVP administered starting at birth or after completion of initial prophylaxis ZDV, through 4 weeks after cessation of breastfeeding. **Simplified Age-Based NVP Dosing for Newborns ≥32 Weeks' Gestation Receiving Extended NVP Prophylaxis During Breastfeeding**

Age	Dose and Volume of NVP 10 mg/mL Oral Syrup Administered Once Daily
Birth to 6 weeks	2.0 to < 3.0 kg: 10 mg (1.0 mL) ≥ 3.0 kg: 15 mg (1.5 mL)
6 weeks to 6 months	20 mg (2.0 mL)

<table>
<tr><td></td><td>
<table>
<tr><td>6 months to 9 months</td><td>30 mg (3.0 mL)</td></tr>
<tr><td>9 months to 18 months</td><td>40 mg 4.0 mL</td></tr>
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</td></tr>
<tr><td>3TC[a,b]</td><td>3TC administered starting after completion of initial prophylaxis ZDV, through 4 weeks after cessation of breastfeeding.

Age 2 Weeks to <4 Weeks
• 3TC 2 mg/kg per dose orally twice daily

Age ≥4 Weeks to 12 months
• Use simplified weight-band dosing outlined in the table below.

Simplified Weight-Band Dosing for 3TC (10 mg/ml Solution) When Used as Prophylaxis During Breastfeeding
<table>
<tr><th>Weight Band</th><th>Dose and Volume of 3TC 10 mg/mL Oral Solution Administered Twice Daily</th></tr>
<tr><td>2 to < 3 kg</td><td>10 mg (1 mL)</td></tr>
<tr><td>3 kg to <4 kg</td><td>15 mg (1.5 mL)</td></tr>
<tr><td>4 kg to <8 kg</td><td>25 mg (2.5 mL)</td></tr>
<tr><td>≥8 kg</td><td>50 mg (5 mL)</td></tr>
</table>
</td></tr>
<tr><th colspan="2">Recommended Infant ARV Management When a Breastfeeding Parent Develops Viremia or Is Diagnosed With HIV During Breastfeeding</th></tr>
<tr><th>Presumptive HIV Therapy Regimens</th><th>Recommended Duration and Dosing</th></tr>
<tr><td>ZDV plus 3TC plus DTG or NVP[c]</td><td>Consultation with the IL Perinatal HIV Hotline or a pediatric HIV specialist is recommended.

Three-drug presumptive HIV therapy regimen for a duration of 4 weeks. See Table 3 for dosing. Presumptive HIV therapy is recommended for a duration of 2–6 weeks (see Table 4).</td></tr>
</table>

[a] Consider periodic CBC and LFTs in breastfeeding infants receiving ARV prophylaxis beyond 6 weeks of life. The American Academy of Pediatrics recommends periodic monitoring of hematologic and liver toxicity in breastfeeding infants receiving ARV prophylaxis beyond this period and for extended durations. Source: Lisa Abuogi, Lawrence Noble, Christiana Smith, COMMITTEE ON PEDIATRIC AND ADOLESCENT HIV, SECTION ON BREASTFEEDING; Infant Feeding for Persons Living With and at Risk for HIV in the United States: Clinical Report. Pediatrics June 2024; 153 (6): e2024066843. 10.1542/peds.2024-066843.

[b] 3TC should be used as extended ARV prophylaxis during breastfeeding when there is evidence or concern for NVP resistant virus (including HIV-2 infection or HIV-1/HIV-2 co-infection) in breastfeeding parent or when an infant cannot tolerate NVP. Dosing for extended 3TC prophylaxis during breastfeeding, based on established 3TC dosing for treatment and weight-band dosing used in PROMISE-EPI Source: Mennecier A, Kankasa C, et al. Optimised prevention of postnatal HIV transmission in Zambia and Burkina Faso (PROMISE-EPI): a phase 3, open-label, randomised controlled trial. Lancet. 2024;403(10434):1362-1371. https://pubmed.ncbi.nlm.nih.gov/38484756.

[c] When maternal HIV infection is diagnosed while breastfeeding, a three-drug presumptive HIV therapy regimen is recommended for the infant, with a duration of 2–6 weeks. The same regimen is recommended for infants at high risk of HIV acquisition after *in utero* or intrapartum exposure (see Table 1). No trials have evaluated the use of multidrug regimens to prevent transmission after cessation of breastfeeding with early (acute or recent) HIV infection. Some Panel members recommend presumptive HIV therapy until the infant's HIV status can be determined. If the infant's initial HIV NAT is negative, the optimal duration of presumptive HIV therapy is unknown. A 28-day course may be reasonable based on current recommendations for nonoccupational HIV exposure.

Approved: 11/2/26

The 24/7 Illinois Perinatal HIV Hotline's BEST PRACTICES: LABOR & DELIVERY CARE FOR PREGNANT PEOPLE WITH HIV AND CARE OF INFANTS WITH PERINATAL EXPOSURE TO HIV were adapted from the U.S. Department of Health and Human Services (DHHS) Recommendations for the Use of Antiretroviral Drugs During Pregnancy and Interventions to Reduce Perinatal HIV Transmission in the United States (hivinfo.nih.gov) and developed by Dr. Lynn Yee, Director of the Women's Infectious Disease Program at Northwestern Memorial Hospital and Medical Director of the 24/7 Illinois Perinatal HIV Hotline; Dr. Jennifer Jao, Director, Section of Pediatric and Maternal HIV Infection and Dr. Sahera Dirajlal-Fargo, both at the Northwestern Feinberg School of Medicine and Ann & Robert H. Lurie Children's Hospital of Chicago; and Dr. Julia Rosebush, Director of Pediatric/Adolescent HIV, Comer Children's Hospital at the University of Chicago.