Acute HIV Infection

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<table>
<thead>
<tr>
<th>Panel’s Recommendations</th>
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<tr>
<td>• When acute HIV infection is suspected in pregnancy or during breastfeeding, a plasma HIV RNA test should be obtained in conjunction with an antigen/antibody immunoassay test (AII). See Acute and Recent (Early) HIV Infection in the Adult and Adolescent Antiretroviral Guidelines and the Centers for Disease Control and Prevention HIV testing algorithm for more information.</td>
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<td>• Repeat HIV testing in the third trimester is recommended for pregnant people with initial negative HIV test results who are at increased risk of acquiring HIV, including those receiving care in facilities that have an HIV incidence of ≥1 case per 1,000 pregnant women per year, those who reside in jurisdictions with elevated HIV incidence (see Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant Women in Health-Care Settings), or those who reside in states that require third-trimester testing (see Maternal HIV Testing and Identification of Perinatal HIV Exposure) (AII).</td>
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<tr>
<td>• All pregnant and breastfeeding people with acute or recent HIV infection should start antiretroviral therapy (ART) as soon as possible to reduce the risk of vertical HIV transmission, with the goal of rapidly suppressing plasma HIV RNA below detectable levels (AI).</td>
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<td>• In people with acute HIV infection, baseline genotypic resistance testing should be performed simultaneously with initiation of ART, and the regimen should be adjusted, if necessary, to optimize virologic response (AII).</td>
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<td>• Dolutegravir (DTG) plus tenofovir disoproxil fumarate (TDF) or tenofovir alafenamide (TAF) with emtricitabine (FTC) or lamivudine (3TC) is the Preferred ART regimen for pregnant people with acute HIV, irrespective of trimester (see Table 4, Table 5, Recommendations for Use of Antiretroviral Drugs During Pregnancy, and Appendix C: Antiretroviral Counseling Guide for Health Care Providers) (AII).</td>
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<td>• Ritonavir boosted darunavir (DRV/r) plus TDF or TAF with FTC or 3TC is an Alternative ART regimen for pregnant people with acute HIV (AIII). See Table 4, Table 5, and Recommendations for Use of Antiretroviral Drugs During Pregnancy for more information.</td>
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<td>• One of the following regimens is recommended for people diagnosed with acute HIV infection when they are breastfeeding: bictegravir (BIC)/TAF/FTC; DTG with TAF or TDF plus FTC or 3TC; or boosted darunavir (DRV) with TAF or TDF plus FTC or 3TC (AIII). See Acute and Recent (Early) HIV Infection in the Adult and Adolescent Antiretroviral Guidelines for more information.</td>
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<td>• People who receive a diagnosis of acute HIV infection when they are breastfeeding should be counseled to discontinue breastfeeding immediately to reduce the risk of postnatal HIV transmission to the infant (AII).</td>
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<td>• The Panel on Treatment of HIV During Pregnancy and Prevention of Perinatal Transmission emphasizes the importance of counseling and informed decision-making regarding all antiretroviral (ARV) regimens for people with HIV (AIII).</td>
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<td>• Providers should inform individuals starting ART of the importance of strict adherence to rapidly achieve and maintain viral suppression (AIII).</td>
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<tr>
<td>• Infants born to people who received a diagnosis of acute HIV infection during pregnancy or breastfeeding are at high risk of acquiring HIV infection and should receive an ARV regimen that is appropriate for this elevated risk (see Table 8 in Antiretroviral Management of Newborns with Perinatal HIV Exposure or HIV Infection) (AII). Consulting a pediatric HIV specialist regarding appropriate infant management is strongly recommended (see Antiretroviral Management of Newborns with Perinatal HIV Exposure or HIV Infection).</td>
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</table>
Women may have an increased risk of HIV infection during pregnancy and breastfeeding. Persons who are at risk for acquiring HIV during pregnancy and the postpartum period should consider using interventions that prevent HIV acquisition, such as oral daily pre-exposure prophylaxis (PrEP). For more information, see Pre-Exposure Prophylaxis (PrEP) to Prevent HIV During Periconception, Antepartum, and Postpartum Periods.

Risk of Perinatal Transmission After Maternal Acute HIV Infection

Acute or recent HIV infection during pregnancy or breastfeeding is associated with an increased risk of perinatal HIV transmission, and a significant proportion of pediatric infections can be attributed to maternal acute infection. Among 10,308 pregnant women with HIV who delivered live infants from 2005 to 2010 in 15 areas of the United States that conducted enhanced perinatal surveillance, 124 women (1.2%) seroconverted during pregnancy. The rate of perinatal transmission was eight times higher among women who seroconverted during pregnancy (12.9%) than among those who seroconverted before pregnancy (1.6%) \( (P < 0.0001) \). Similarly, among 108 new perinatal HIV infections that were identified between 2006 and 2013 in the United Kingdom, 23 (21.3%) were associated with a concurrent maternal seroconversion. The high rate of transmission in people with acute infection likely is related to the high viral loads in plasma, breast milk, and the genital tract that are present during acute infection; in addition, acute HIV infection symptoms can be nonspecific, which results in missed opportunities to diagnose and implement interventions that can reduce the risk of perinatal transmission.

Diagnosis of Acute HIV Infection During Pregnancy

Acute HIV infection is the phase of HIV disease that occurs immediately after acquisition, which typically is characterized by high viremia detected by the presence of HIV RNA or p24 antigen. Anti-HIV antibodies are not detectable early during this phase of HIV infection (see Acute and Recent (Early) HIV Infection section of the Adult and Adolescent Antiretroviral Guideline). Recent HIV infection generally is considered the phase of HIV disease ≤6 months after infection, during which anti-HIV antibodies develop and become detectable.

Health care providers should maintain a high level of suspicion of acute HIV infection in patients who are pregnant or breastfeeding and have clinical signs and symptoms that are compatible with acute infection. Even when patients do not report high-risk behaviors, it is still possible that their sexual partners are practicing high-risk behaviors without their knowledge. An estimated 40% to 90% of patients with acute HIV infection will experience symptoms of acute retroviral syndrome, which is characterized by fever, lymphadenopathy, pharyngitis, skin rash, myalgias/arthritis, headache, diarrhea, oral ulcers, and other symptoms. Providers often do not recognize acute HIV infection because the symptoms are similar to those of other common illnesses, and also some individuals with acute HIV infection may be asymptomatic.
When acute HIV infection is suspected during pregnancy or breastfeeding, a quantitative or qualitative plasma HIV RNA test should be obtained in conjunction with an antigen/antibody immunoassay test. Guidance for HIV testing recommends using a Food and Drug Administration (FDA)-approved antigen/antibody combination (fourth-generation) immunoassay that detects HIV-1 and HIV-2 antibodies and HIV-1 p24 antigen for initial testing. These tests are used to screen for established infection with HIV-1 or HIV-2 and for acute HIV-1 infection. More specific guidance on HIV testing can be found in the Acute and Recent (Early) HIV Infection section of the Adult and Adolescent Antiretroviral Guidelines, the Centers for Disease Control and Prevention (CDC) HIV testing algorithm, and the Maternal HIV Testing and Identification of Perinatal HIV Exposure section.

Recent infection also can be detected by repeat HIV testing later in pregnancy in people whose initial HIV test was negative. A report from the Mother-Infant Rapid Intervention at Delivery (MIRIAD) study found that 6 of 54 women (11%) whose HIV was identified with rapid HIV testing during labor had acute or recent infection. Repeat testing during the third trimester is recommended for pregnant women who are known to be at risk of HIV infection, who receive care in facilities with an HIV incidence of ≥1 case per 1,000 pregnant women per year, or who reside in jurisdictions with elevated HIV incidence or with statutes and regulations that require third trimester testing (see Prenatal and Perinatal Human Immunodeficiency Virus Testing, Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant Women in Health-Care Settings, the CDC HIV testing algorithm, and Maternal HIV Testing and Identification of Perinatal HIV Exposure). Implementation of the recommendation for repeat HIV testing later in pregnancy has varied. A retrospective cohort study at a large metropolitan hospital in a high-prevalence jurisdiction reported that repeat prenatal HIV testing was performed in only 28.4% of women. At a large, urban tertiary hospital in Florida, 82% of women were retested in the third trimester.

**Antiretroviral Therapy for People with Acute or Recent HIV Infection During Pregnancy**

Acute or recent HIV infection during pregnancy and breastfeeding is associated with a high risk of vertical transmission of HIV. Therefore, all pregnant people with acute or recent HIV infection should start antiretroviral therapy (ART) as soon as possible, with the goal of preventing perinatal transmission by rapid suppression of plasma HIV RNA below detectable levels. Baseline genotypic resistance testing should be performed to guide adjustment of an optimal antiretroviral (ARV) drug regimen. Data from the United States and Europe demonstrate that in 6% to 19% of patients, transmitted virus may be resistant to ≥1 ARV drugs. If results of resistance testing are already available or the source virus’s resistance pattern is known, that information can be used to guide the selection of the drug regimen.

A regimen that includes dolutegravir (DTG) plus tenofovir disoproxil fumarate (TDF) or tenofovir alafenamide (TAF) plus emtricitabine (FTC) or lamivudine (3TC) should be initiated in pregnant people with acute HIV infection (see Recommendations for Use of Antiretroviral Drugs During Pregnancy, Table 4, Table 5, and Appendix C: Antiretroviral Counseling Guide for Health Care Providers). DTG is associated with higher rates of virologic suppression, faster rates of viral load decline, and a higher genetic barrier to drug resistance than other Preferred and Alternative agents. DTG plus TDF (or tenofovir alafenamide) plus FTC (or 3TC) is one of the recommended ARV regimens for treatment of acute and early infection in nonpregnant adults. In the case that a patient cannot receive DTG (e.g., intolerance, potential transmitted resistance, etc.), an Alternative regimen of darunavir/r (administered twice daily during pregnancy) plus TDF or TAF plus FTC or 3TC (see
Table 4 and Table 5) is recommended for treatment of acute infection during pregnancy. TDF or TAF plus FTC or 3TC are Preferred nucleoside reverse transcriptase inhibitor (NRTI) backbones for treatment of acute infection. The efficacy and toxicity of TDF and TAF in pregnant patients are similar. In the International Maternal Pediatric Adolescent AIDS Clinical Trials (IMPAACT) 2010 trial, no differences were observed in viral suppression, grade 3 or higher adverse events, or estimated creatinine clearance among people randomized to initiate TDF/FTC (n = 215) versus TAF/FTC (n = 217) with DTG at >14 weeks gestational age. Abacavir (ABC) is not recommended for empiric treatment of acute infection unless the patient previously tested negative for the HLA-B*5701 gene variant; using TDF or TAF rather than ABC will avoid delays in ART initiation while awaiting HLA-B*5701 test results.

Several studies have demonstrated that the use of DTG-based regimens is associated with shorter time to viral suppression compared with other ARV regimens. Although no data are available to inform the treatment of acute HIV during pregnancy, two studies in pregnant women demonstrated more rapid viral decline on DTG-based regimens than on efavirenz (EFV)-based ART. In the DolPHIN 2 study (dolutegravir in pregnant HIV mothers and their neonates), 268 ART-naive pregnant women in Uganda and South Africa with a median gestational age of 31 weeks were randomized to receive either DTG plus two NRTIs or EFV plus two NRTIs. At delivery, women in the DTG arm were significantly more likely to have achieved HIV RNA <50 copies/mL than those in the EFV arm (74% vs. 43%, respectively; adjusted risk ratio 1.66 [95% confidence interval, 1.3–2.1]; P < 0.0001). More recently, in the IMPAACT 2010 trial, 643 pregnant women, 14–28 weeks gestation, were assigned randomly to receive DTG plus FTC and TDF, DTG plus FTC and TAF, or EFV plus FTC and TDF. At delivery, 395 (98%) of 405 participants in the combined DTG-containing groups had viral suppression, HIV-1 RNA <200 copies per mL, compared with 182 (91%) of 200 participants in the EFV plus FTC and TDF group. Furthermore, participants assigned to a DTG-containing group had a significantly shorter time to viral suppression than those in the EFV-containing group.

People who are diagnosed with acute HIV during breastfeeding should discontinue breastfeeding and start ART as soon as possible. ART options and management should follow guidance outlined in Acute and Recent (Early) HIV in the Adult and Adolescent Antiretroviral Guidelines. One of the following ART regimens is recommended: Bictegravir (BIC)/TAF/FTC; DTG with TAF or TDF plus FTC or 3TC; or boosted darunavir (DRV) with TAF or TDF plus FTC or 3TC.

Obstetrical and Neonatal Considerations

When acute HIV infection is diagnosed during pregnancy, and particularly when it is documented in late pregnancy, cesarean delivery may be necessary when there is insufficient time to fully suppress a patient’s viral load (see Intrapartum Care for People with HIV). When acute HIV infection is diagnosed during breastfeeding, breastfeeding should be discontinued immediately. In nursing mothers with suspected seroconversion, breastfeeding should be interrupted immediately, and it should not resume if infection is confirmed (see Counseling and Managing Individuals with HIV in the United States Who Desire to Breastfeed). Patients can continue to express and store breast milk while awaiting confirmation of infection status.

Given the high risk of transmission to the infant with acute maternal infection, an infant should receive an ARV regimen that is appropriate for this elevated risk when acute HIV infection is diagnosed during pregnancy or breastfeeding (see Antiretroviral Management of Newborns with Perinatal HIV Exposure or HIV Infection). Consulting a pediatric HIV specialist regarding
appropriate infant management is strongly recommended. All people who receive a diagnosis of acute infection should be asked whether they know the HIV status of their partner. HIV testing of the sexual partners of all pregnant people who test HIV positive should be encouraged, and PrEP should be offered to partners who test HIV negative.
References


