



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

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Panel's Recommendations

- Antiretroviral therapy (ART) is currently recommended for all individuals living with HIV to reduce the risk of disease progression and to prevent the sexual transmission of HIV (**AI**).
- Any plans for modifying ART after delivery should be made in consultation with the woman and her HIV care provider, ideally before delivery, taking into consideration the recommended regimens for nonpregnant adults (**AIII**).
- Because the immediate postpartum period poses unique challenges to antiretroviral (ARV) adherence, arrangements for new or continued supportive services should be made before hospital discharge (**AII**).
- Contraceptive counseling should start during the prenatal period; a contraceptive plan should be developed prior to hospital discharge (**AIII**).
- Women with a positive rapid HIV antibody test during labor require immediate linkage to HIV care and comprehensive follow-up, including confirmation of HIV infection (**AII**).
- Prior to hospital discharge, the woman should be given ARV medications for herself and her newborn to take at home (**AIII**).
- Breastfeeding is not recommended for women in the United States with confirmed or presumed HIV infection, because safer alternatives are available (**AI**).
- Infant feeding counseling, including a discussion of potential barriers to formula feeding, should begin during the prenatal period, and this information should be reviewed after delivery (**AIII**).

Rating of Recommendations: A = Strong; B = Moderate; C = Optional

Rating of Evidence: I = One or more randomized trials with clinical outcomes and/or validated laboratory endpoints; II = One or more well-designed, nonrandomized trials or observational cohort studies with long-term clinical outcomes; III = Expert opinion

Postpartum Follow-Up of Women Living with HIV

The postpartum period provides an opportunity to review and optimize women's health care. Comprehensive medical care and supportive services are particularly important for women living with HIV and their families, who often face multiple medical and social challenges. Components of comprehensive care include the following services as needed:

- Primary care, gynecologic/obstetric care, and HIV specialty care for the woman with HIV;
- Pediatric care for her infant;
- Family planning services;
- Mental health services;
- Substance abuse treatment;
- Support services;
- Coordination of care through case management for a woman, her child(ren), and other family members;
and
- Prevention of secondary transmission for serodiscordant partners, including counseling on the use of condoms, antiretroviral therapy (ART) to maintain virologic suppression in the partner with HIV (i.e., treatment as prevention), and the potential use of pre-exposure prophylaxis (PrEP) by the partner without HIV.

Support services should be tailored to the individual woman's needs and can include case management; child care; respite care; assistance with basic life needs, such as housing, food, and transportation; peer counseling; and legal and advocacy services. Ideally, this care should begin before pregnancy and continue throughout

pregnancy and the postpartum period.

Immediate linkage to care, comprehensive medical assessment, counseling, and follow-up are required for all women with HIV and particularly for women who have a positive HIV test during labor or at delivery. The American College of Obstetricians and Gynecologists recommends that all women have contact with their obstetrician-gynecologists or other obstetric care providers within the first 3 weeks postpartum.¹ Women with HIV should have a follow-up appointment with the health care provider who manages their HIV care, whether that is an obstetrician or an HIV health care provider, within the first 2 to 4 weeks after hospital discharge.

When care is not co-located or not within the same health care system, a case manager can facilitate care coordination. Women who are receiving case management are also more likely to have virologic suppression and be retained in care.² It is especially critical to ensure continuity of ART between the antepartum and postpartum periods. Prior to discharge, the mother should receive HIV medications for herself and her newborn. Special hospital programs may need to be established to support dispensing ART to mothers before discharge.

Decisions about any changes to an ART regimen after delivery should be made after consulting with the woman and her HIV care provider, ideally prior to delivery. There are ART regimens that are recommended for nonpregnant adults (see the [Adult and Adolescent Guidelines](#)) that may not have the same designation for use during pregnancy due to insufficient data or pharmacokinetic concerns. See [Table 6](#) and [Table 7](#) for specific recommendations regarding regimens to use in pregnant women and women who are trying to conceive.

ART is currently recommended for all individuals with HIV to reduce the risk of disease progression and to prevent HIV secondary transmission.³ The START and TEMPRANO trials were randomized clinical trials that demonstrated that early ART can reduce the risk of disease progression even in individuals with CD4 T lymphocyte cell counts >500 cells/mm³, and the HPTN 052 randomized clinical trial demonstrated that early ART can reduce the risk of sexual transmission to a discordant partner by 96%.⁴⁻⁶ It is important to counsel a woman that no single method (including treatment) is 100% protective against HIV transmission; however, with full, sustained HIV suppression, the risk of sexual transmission is negligible.

Helping women with HIV understand the need for lifelong ART is a priority during postpartum care. Several studies have demonstrated significant decreases in ART adherence postpartum.⁷⁻¹¹ During the postpartum period, women may have difficulty with medical appointment follow-up, which can affect ART adherence. Systematic monitoring of retention in HIV care is recommended for all individuals living with HIV, but special attention is warranted during the postpartum period. A number of studies have suggested that postpartum depression is common among women with HIV.¹²⁻²⁰ The U.S. Preventive Services Task Force recommends screening all women for postpartum depression²¹ using a validated tool; this is especially important for women living with HIV who appear to be at increased risk for postpartum depression and poor ART adherence during the postpartum period. Women should be counseled that postpartum physical and psychological changes (and the stresses and demands of caring for a new baby) may make adherence more difficult and that additional support may be needed during this period.^{2,22-25}

Poor adherence has been shown to be associated with virologic failure, development of resistance, and decreased long-term effectiveness of ART.²⁶⁻²⁸ In women who achieve viral suppression by the time of delivery, postpartum simplification to once-daily, coformulated regimens—which are often the preferred initial regimens for nonpregnant adults—could promote adherence during this challenging time. Efforts to maintain adequate adherence during the postpartum period may ensure effectiveness of therapy (see [Adherence](#) in the [Adult and Adolescent Guidelines](#)). For women who are continuing ART and who received increased protease inhibitor doses during pregnancy, available data suggest that doses can be reduced to standard doses immediately after delivery.

The postpartum period is a critical time for addressing safer sex practices in order to reduce secondary transmission of HIV to partners,²⁹ and clinicians should begin discussing these practices with the patient during the prenatal period. Topics that should be discussed during counseling on prevention of secondary

transmission to the partner without HIV include condoms, ART for the partner with HIV to maintain viral suppression below the limit of detection, and the potential use of PrEP by the partner without HIV. With full, sustained HIV suppression in the woman—with or without reliable PrEP use by her partner without HIV—the possibility of transmission is **negligible** (for additional information, see [Reproductive Options](#)).

It is important to integrate comprehensive family planning and preconception care into all health care visits, with special attention given to these topics during the routine prenatal and postpartum visits. Lack of breastfeeding is associated with earlier return of fertility; ovulation returns as early as 6 weeks postpartum, and it can occur earlier in some women—even before resumption of menses—putting them at risk of pregnancy shortly after delivery.³⁰ If a long-acting reversible contraceptive (LARC), such as an injectable, implant, or intrauterine device (IUD), is desired by the patient, it should be inserted prior to hospital discharge or during the obstetrical care visit at **3** weeks postpartum. If a LARC is postponed to the postpartum visit, Depo-Provera is an option to be given as a **contraceptive** to avoid unplanned pregnancy in the interim, particularly if the postpartum appointment is missed. Interpregnancy intervals of <18 months have been associated with an increased risk of poor perinatal and maternal outcomes in women without HIV.³¹ Because of the stresses and demands of a new baby, women may be more receptive to the use of effective contraception, yet they are simultaneously at higher risk of nonadherence to contraception and, thus, unintended pregnancy.³²

The potential for drug-drug interactions between several antiretroviral (ARV) drugs and hormonal contraceptives is discussed in [Preconception Counseling and Care for Women of Childbearing Age Living with HIV](#) and [Table 3](#). A systematic review conducted for the World Health Organization summarized the research on hormonal contraception, IUD use, and risk of HIV infection and concluded that women with HIV can use all forms of contraception.^{33,34} Findings from a systematic review of hormonal contraceptive methods and risk of HIV transmission to partners without HIV concluded that oral contraceptives and medroxyprogesterone do not increase risk of HIV transmission in women who are on ART, although the data are limited and have methodological issues.³⁵ Permanent sterilization is appropriate only for women who are certain they do not desire future pregnancies.

Avoidance of breastfeeding has been and continues to be a standard, strong recommendation for women living with HIV in the United States, because maternal ART dramatically reduces but does not eliminate breastmilk transmission, and safe infant feeding alternatives are readily available. There are also other concerns, including the potential for drug toxicity in the neonate or, should HIV transmission occur, the risk that the infant will develop ARV drug resistance due to subtherapeutic drug levels in breastmilk. However, clinicians should be aware that women may face social, familial, and personal pressures to consider breastfeeding despite this recommendation; this may be particularly problematic for women from cultures where breastfeeding is important, as they may fear that formula feeding would reveal their HIV status.^{36,37} It is therefore important to address these possible barriers to formula feeding during the antenatal period (see [Guidelines for Counseling and Managing Women Living with HIV in the United States Who Desire to Breastfeed](#)). Women who have an initial positive HIV test should not breastfeed unless a confirmatory HIV test is negative (for detailed guidance on maternal HIV testing, please see [Maternal HIV Testing and Identification of Perinatal HIV Exposure](#)). If HIV infection is confirmed, a full health assessment is warranted, including counseling related to newly diagnosed HIV infections, a discussion of the need for lifelong ART, an assessment of the need for opportunistic infection prophylaxis, and an evaluation for associated medical conditions. The newborn should receive appropriate testing and [ARV drug management](#). Other children and partner(s) should be referred for HIV testing. Similarly, women with HIV should be made aware of the risks of HIV transmission via pre-mastication (prechewing or prewarming in the mother's mouth) of infant food.³⁸ **It is not yet known whether there is a risk of HIV transmission with pre-mastication of food when the mother's viral load is below the limit of detection.**

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