

Pregnant People with HIV Who Have Previously Received Antiretroviral Medications but Are Not Currently Receiving Any Antiretroviral Medications

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Panel's Recommendations
<ul style="list-style-type: none">• Obtain an accurate history of all prior antiretroviral (ARV) medications used for HIV treatment or prevention of HIV transmission, including virologic efficacy, patient's tolerance of the medications, results of prior resistance testing, and problems with adherence (AIII).• Choose and initiate an antiretroviral therapy (ART) regimen based on results of prior resistance testing, prior ARV drug use, concurrent medical conditions, and current recommendations for ART in pregnancy (see Table 5) (AII).• If HIV RNA is above the threshold for standard genotypic drug resistance testing (i.e., >500 to 1,000 copies/mL), ARV drug-resistance testing should be performed prior to starting an ARV drug regimen (see Antiretroviral Drug Resistance and Resistance Testing in Pregnancy) (AIII).• ART should be initiated prior to receiving results of current ARV resistance assays. ART should be modified based on the results of the resistance assay, if necessary (AII).• If the ART regimen results in insufficient viral suppression, repeat resistance testing and assess other considerations, including adherence, food requirements, and drug interactions (AII).• Consider consulting with an HIV treatment specialist when choosing an ART regimen for patients who previously received ARV drugs or modifying ART for those who are not fully suppressed (BIII).
<p>Rating of Recommendations: A = Strong; B = Moderate; C = Optional</p> <p>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</p>

Pregnant people with HIV who are currently not receiving antiretroviral therapy (ART) may have received antiretroviral (ARV) drugs in the past for their own health and/or prevention of HIV transmission to their infant or their sexual partners (e.g., treatment as prevention).¹ A small number of clinical trials and observational studies have generated information about the effectiveness of ART in individuals who previously received ART to prevent perinatal transmission of HIV.²⁻⁶

There has been concern that prior, time-limited use of ART during pregnancy to prevent perinatal transmission may lead to resistance and, thus, reduced efficacy if these ARV drugs are used as a part of subsequent ART regimens. Standard genotyping has shown that the rates of resistance after time-limited use of ART appear to be low. Resistance seems to be a concern primarily in patients who received time-limited non-nucleoside reverse transcriptase inhibitor (NNRTI)-based therapy.⁷⁻⁹ In a comparison between 5,372 ARV-naïve pregnant women and 605 women who previously had received ART in the pre-integrase strand transfer inhibitor (INSTI) era (but who were not being treated immediately before the current pregnancy), ARV-experienced women had a small but statistically significant increase in the risk of detectable viral load at delivery (adjusted odds ratio 1.27; 95% confidence interval, 1.01–1.60). However, this increased risk was seen in women who previously received NNRTI-based therapy, but not in those who previously received protease inhibitor (PI)-based therapies.⁷

Both standard and sensitive genotyping techniques appear to show a low rate of resistance to PIs after pregnancy-limited use of PI-based ART, but these results reflect assessments in a small number of women.^{10,11} Increased risk of treatment failure has not been demonstrated with re-initiation of ART after time-limited use of ART for the prevention of perinatal transmission, especially when using ART regimens with a PI-based regimen or an INSTI.¹² In the AIDS Clinical Trials Group (ACTG) [A5227 study](#), 52 women who previously had received pregnancy-limited ART and who had no evidence of resistance were started on a fixed-dose combination of efavirenz/tenofovir disoproxil fumarate/emtricitabine once daily. After 6 months of therapy, 81% of these women achieved plasma viral loads that were below the limit of detection; the virologic suppression rate was not affected by the classes of previously used ARV drugs or whether women had received similar ART during one or more previous pregnancies.² The data from the French Perinatal Cohort were used to assess the rates of virologic suppression among women who received PI-based ART; ARV-naïve women and women who had received ART during previous pregnancies to prevent perinatal transmission had similar rates of viral load suppression at delivery.¹²

ART is recommended worldwide for everyone with HIV, including all people with HIV during pregnancy and throughout their lives.¹³ Studies show the benefits of ART for pregnant people with higher CD4 T lymphocyte (CD4) cell counts (>350 cells/mm³) and the potential harm of stopping ART after pregnancy in such people.¹⁴ The data from the Promoting Maternal and Infant Safety Everywhere (PROMISE) study (HAART Standard version) showed that women with CD4 counts ≥400 cells/mm³ who were randomized to continue ART postpartum had half the rate of World Health Organization stage 2 and 3 events as those who were randomized to discontinue ART.¹⁵ Furthermore, poor adherence was a common problem for women during the postpartum period in this study. Among women who were randomized to continue ART, 189 of 827 women (23%) had virologic failure. Of the 156 women with virologic failure who had resistance testing, 33% had at least one mutation and 12% had resistance to their current ART regimen. Mutations and resistance occurred more often in women who experienced virologic failure on NNRTI-based regimens. However, most women did not have resistance to their current ART, which suggests **they were not taking their ART and highlights the importance of assessing barriers to medication adherence.**¹⁵ When counseling patients about the benefits of taking ART during pregnancy and continuing therapy for life, health care providers should emphasize the health benefits of ART and the importance of adherence during the postpartum period (see [Postpartum Follow-Up of People with HIV Infection](#)).

Individuals may choose to discontinue ART for a variety of reasons, and the length of time off treatment before pregnancy may vary. A person's HIV treatment history and all prior drug resistance test results should be considered when choosing ART regimens for pregnant people who previously have received treatment, even when the results of drug-resistance testing performed during the current pregnancy are not yet available. Interpretation of resistance testing can be complex because resistance testing is most accurate when performed while an individual is still taking ART or within 4 weeks of discontinuing treatment (see [Antiretroviral Drug Resistance and Resistance Testing in Pregnancy](#)). In the absence of selective drug pressure, resistant virus may revert to wild type; thus, a negative finding does not rule out the presence of archived resistant virus that could re-emerge once ART is restarted (see [Antiretroviral Drug Resistance and Resistance Testing in Pregnancy](#)). Therefore, when selecting a new ART regimen, all information—including regimens received, viral response, laboratory testing (including HLA-B*5701 screening results), any tolerance or adherence problems, food requirements, concomitant medications, prior medical conditions, and results of all prior resistance testing—should be considered. In general, ART should be initiated before receiving the results of ARV drug-resistance testing, especially because longer durations of ART during pregnancy have been associated with reduced perinatal transmission rates, compared with shorter treatment

periods.^{16,17} ART should be modified, when necessary, based on subsequent resistance assay results. Careful monitoring of virologic response is essential (see [Monitoring During Pregnancy](#)).

A person may restart a previous ART regimen that successfully suppressed their viral load if the regimen was tolerated well and no evidence of resistance to that regimen is identified. Ideally, the regimen should also be recommended currently as a first-line or alternative regimen for initial ART in pregnancy (see [Table 4: What to Start](#) and [Table 5](#)). Drugs that are not recommended because of toxicity (stavudine, didanosine, treatment-dose ritonavir) **should not be used**; drugs that are not recommended for initial use because of concerns about viral breakthrough during pregnancy also should be avoided, if possible (see [Table 5](#)). Even experienced health care providers may have difficulty with the selection of appropriate ART for people who have advanced HIV disease, a history of extensive prior ART, or previous significant toxicity or nonadherence. In addition to obtaining genotypic resistance testing, it is strongly recommended that specialists in the treatment of HIV be consulted early in the pregnancy about the choice of a suitable ART regimen for such individuals.

If ART produces an insufficient viral response (e.g., $<1-2$ log₁₀ drop over 2–4 weeks), repeat resistance testing, including testing for resistance to INSTIs if indicated (see [Antiretroviral Drug Resistance and Resistance Testing in Pregnancy](#)), and assess medication adherence, food requirements, and potential drug interactions (including relevant pharmacokinetic studies when available) to inform potential regimen changes. Consultation with an HIV treatment specialist is recommended (see [Pregnant People Who Have Not Achieved Viral Suppression on ART](#)).

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