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Table 1. Outline of the Guidelines Development Process

Topic	Comment
Goal of the Guidelines	Provide guidance to HIV care practitioners in the United States on the optimal use of antiretroviral (ARV) agents to manage HIV treatment during pregnancy, prevent HIV acquisition during pregnancy, and prevent perinatal HIV transmission in infants exposed to HIV.
Panel Members	<p>The Panel is composed of approximately 41 voting members who have expertise in managing HIV care during pregnancy (e.g., training in obstetrics/gynecology, infectious diseases, or women's health), the pharmacology of ARV drugs during pregnancy, and the interventions for prevention of perinatal transmission (e.g., specialized training in pediatric HIV infection). The Panel also includes community representatives with knowledge of HIV infection in pregnancy and interventions for the prevention of perinatal transmission.</p> <p>The U.S. government representatives, appointed by their agencies, include at least one representative from each of the following U.S. Department of Health and Human Services agencies: Centers for Disease Control and Prevention (CDC), U.S. Food and Drug Administration (FDA), Health Resources and Services Administration (HRSA), and National Institutes of Health (NIH). Members who do not represent U.S. government agencies are selected by Panel members after an open call for nominations. Each member serves on the Panel for a 3-year period, with an option for reappointment. The Panel also may include liaison members from the National Perinatal HIV hotline, the American Academy of Pediatrics Committee on Pediatric AIDS, the American College of Obstetricians and Gynecologists, the Society of Obstetricians and Gynaecologists of Canada, and the Canadian Pediatric and Perinatal Research Group. A list of all Panel members can be found in the Guidelines Panel Members section.</p>
Financial Disclosures	All members of the Panel submit an annual written financial disclosure that reports any association with manufacturers of ARV drugs or diagnostics used to manage HIV infection. See Financial Disclosure for a list of the latest disclosures.
Users of the Guidelines	Providers of care for pregnancy with HIV and infants who have been exposed to HIV
Developer	The Panel on Treatment of HIV During Pregnancy and Prevention of Perinatal Transmission—a working group of the Office of AIDS Research Advisory Council (OARAC)
Funding Source	Office of AIDS Research, NIH
Evidence for Recommendations	The recommendations in these guidelines are generally based on studies published in peer-reviewed journals. On some occasions, particularly when new information may affect patient safety, unpublished data that were presented at major conferences or prepared by FDA and/or manufacturers as warnings to the public may be used as evidence to revise the guidelines.
Recommendation Grading	See Table 2 .

Topic	Comment
Method of Synthesizing Data	Each section of the guidelines is assigned to a small group of Panel members with expertise in the area of interest. A structured literature search is conducted by a technical assistance consultant and provided to the Panel working group. The members review and synthesize the available data and propose recommendations to the entire Panel. The Panel discusses all proposals during monthly teleconferences. Proposals are modified based on Panel discussions and then distributed, with ballots, to all Panel members. If substantive comments or votes against approval are made, the recommended changes and areas of disagreement are brought back to the full Panel (via email or teleconference) for review, discussion, and further modification to reach a final version that is acceptable to all Panel members. The recommendations in these final versions represent the consensus of Panel members and are included in the guidelines as official Panel recommendations.
Other Guidelines	These guidelines focus on HIV care during pregnancy and postpartum, including guidance for infant care. Other guidelines (all of which are available on the Clinicalinfo website) outline the use of ARV agents in nonpregnant adults and adolescents with HIV; use of ARV agents in infants and children with HIV; treatment and prevention of opportunistic infections (OIs) in adults and adolescents with HIV, including during pregnancy; treatment and prevention of OIs in children who have been exposed to HIV or who have HIV infection; and treatment of people who experience occupational or nonoccupational exposure to HIV. Preconception management for nonpregnant people of reproductive potential is discussed briefly in this document. However, for a more detailed discussion of the issues surrounding the treatment of nonpregnant adults, please consult the Adult and Adolescent Antiretroviral Guidelines and the Adult and Adolescent Opportunistic Infection Guidelines .
Update Plan	The Panel meets monthly by teleconference to review data that may affect the content of the guidelines. Updates may be prompted by new drug approvals (or new indications, new dosing formulations, and/or changes in dosing frequency), significant new safety or efficacy data, or other information that may have a significant impact on the clinical care of patients. In the event of significant new data that may affect patient safety, the Panel may issue a warning announcement and recommendations on the Clinicalinfo website until the guidelines can be updated with the appropriate changes.
Public Comments	A 2-week public comment period follows the release of the updated guidelines on the Clinicalinfo website . The Panel reviews comments to determine whether additional revisions to the guidelines are indicated. The public also may submit comments to the Panel at any time at HIVinfo@NIH.gov .

Basis for Recommendations

The recommendations in these guidelines are based on scientific evidence and expert opinion. Each recommendation statement includes a letter (**A**, **B**, or **C**) that represents the strength of the recommendation and a Roman numeral (**I**, **II**, or **III**) that represents the quality of the evidence that supports the recommendation.

Table 2. Rating Scheme for Recommendations

Strength of Recommendation	Quality of Evidence for Recommendation
A: Strong recommendation for the statement	I: One or more randomized trials with clinical outcomes and/or validated laboratory endpoints
B: Moderate recommendation for the statement	II: One or more well-designed, nonrandomized trials or observational cohort studies with long-term clinical outcomes
C: Optional recommendation for the statement	III: Expert opinion

Table 3. Drug Interactions Between Antiretroviral Agents and Hormonal Contraceptives

Table 3 provides a summary of drug interactions between antiretroviral (ARV) agents and hormonal contraceptives, with recommendations for contraceptive dosing and additional contraceptive protection. Because data are limited on pregnancy rates when using different hormonal contraceptives and ARVs, some of the dosing recommendations in Table 3 are based on consensus expert opinion. Whenever possible, the recommendations are based on available data regarding pharmacokinetic interactions between ARVs and combined hormonal methods, depot medroxyprogesterone acetate, and levonorgestrel and etonogestrel implants.

Additional information can be found in the Centers for Disease Control and Prevention [Update to U.S. Medical Eligibility Criteria for Contraceptive Use, 2016: Updated Recommendations for the Use of Contraception Among Women at High Risk for HIV Infection](#).⁵⁷

Non-nucleoside Reverse Transcriptase Inhibitors (NNRTIs)	
Efavirenz (EFV)	
Dosing Recommendation/Clinical Comment for COC/P/R, POPs, and ENG Implants	If efficacy is of primary importance, consider an alternative method (or a reliable method of barrier contraception in addition to this method).
Dosing Recommendation/Clinical Comment for DMPA ^a	No additional contraceptive protection is needed.
Effect on Contraceptive Drug Levels and the Contraceptive's Effects on ART and HIV	<p>COC</p> <ul style="list-style-type: none"> No effect on EE concentrations ↓ active metabolites of norgestimate; LNG AUC ↓ 83% and norelgestromin AUC ↓ 64%⁵⁸ ENG (in COC) C_{24h} ↓ 61%⁵⁹ ENG ↓ 79%; EE ↓ 59%⁵⁶ <p>DMPA</p> <ul style="list-style-type: none"> No effect on DMPA levels^{42,43} DMPA AUC ↓ 33% to 35% when coadministered with EFV, rifampin, and INH. More frequent DMPA dosing may be appropriate.⁵⁴ <p>ENG Implant</p> <ul style="list-style-type: none"> ENG ↓ below the level necessary to prevent pregnancy (90 pg/mL) in 60% receiving EFV⁶⁰ ↓ 49% ENG concentration⁶¹ ENG AUC ↓ 63% to 82%^{49,62} <p>LNG Implant</p> <ul style="list-style-type: none"> ↓ 61% LNG concentration⁶¹ LNG AUC ↓ 47%⁵⁰ ↑ pregnancy incidence rate among women using LNG or ENG implants, more among ENG users⁶³

Table 3. Drug Interactions Between Antiretroviral Agents and Hormonal Contraception

	<ul style="list-style-type: none"> • LNG AUC ↓ 40% to 73% over 30 months of use⁶⁴ • Doubling the dose of LNG implant from 150 mg to 300 mg did not overcome the decrease in LNG concentration.⁶⁵ <p>LNG Emergency Contraception (Oral Dosing)</p> <ul style="list-style-type: none"> • LNG (emergency contraception) AUC ↓ 58%²³ • C_{max} was 51% higher with 3 mg LNG (24.9 ng/mL) than with 1.5 mg (15.1 ng/mL), and the 48-hour concentration was 66% higher (0.6 vs. 0.3 ng/mL, respectively). Dose adjustment of LNG EC from 1.5 mg to 3 mg helped to overcome the drug–drug interaction in women receiving EFV-based ART.²⁴ <p>Vaginally Administered ENG/EE (Vaginal Ring)</p> <ul style="list-style-type: none"> • ENG ↓ 93% in CYP2B6 slow metabolizers and ↓ 75% in normal and intermediate metabolizers⁶⁶ • EE ↓ 75% in slow metabolizers and ↓ 41% in normal and intermediate metabolizers⁶⁶ <p>Changes in ARV Levels and/or Effects on HIV</p> <p><i>COC</i></p> <ul style="list-style-type: none"> • No effect on EFV concentrations⁵⁸ • EFV C_{12h} ↓ 22%; under therapeutic threshold in 3 of 16 participants⁵⁹ <p><i>DMPA</i></p> <ul style="list-style-type: none"> • No effect on HIV disease progression^{42,67,68} • No effect on EFV concentrations⁴² <p>LNG Implant</p> <ul style="list-style-type: none"> • No effect on HIV disease progression⁵⁰
<p>Clinical Studies</p>	<p>COC</p> <ul style="list-style-type: none"> • No difference in pregnancy rates⁶⁹ • Pregnancy rate was 13% higher in women using COCs and EFV than in women using COCs alone.^{48,70} • Progesterone >3 ng/mL (a surrogate for ovulation) in 3 of 16 women⁷¹ • No ovulations⁵⁸ <p>DMPA</p> <ul style="list-style-type: none"> • No increase in pregnancies^{42,48,68,69} • Low endogenous progesterone, consistent with no ovulation^{42,43,68} <p>ENG Implant</p> <ul style="list-style-type: none"> • Pregnancy rate was higher with EFV compared with no ART but still lower with implants than with other hormonal methods of contraception.⁴⁸ • Presumptive ovulation in 5%⁶²

Table 3. Drug Interactions Between Antiretroviral Agents and Hormonal Contraception

	<p>LNG Implant</p> <ul style="list-style-type: none"> • 12% pregnancy rate⁴⁷ • 15% pregnancy rate⁵⁰ • Pregnancy rate was higher with EFV compared with no ART but still lower with implants than with other hormonal methods of contraception.⁴⁸ • No increase in pregnancy rate⁶⁹
Justification/Evidence for Recommendation	<p>For COCs, some studies suggest higher pregnancy rate and ovulation rate and decreased progestin levels. EFV levels may decrease, but clinical significance is unclear.</p> <p>For DMPA, evidence does not show effects on pregnancy rate, ovulation, or DMPA levels. Also, no effect on HIV disease progression or EFV levels.</p> <p>More frequent DMPA dosing may be appropriate for women receiving rifampicin, INH, and EFV.</p> <p>For implants, some studies suggest higher pregnancy rate and decreased hormone levels.</p> <p>For vaginally administered ENG/EE, PK evaluation showed that ENG levels were 79% lower and EE levels were 59% lower in participants on EFV than in controls after 21 days.⁵⁶</p>
Etravirine (ETR)	
Dosing Recommendation/Clinical Comment for COC/P/R, POPs, DMPA^a, ENG Implants	No additional contraceptive protection is needed.
Effect on Contraceptive Drug Levels and the Contraceptive's Effects on ART and HIV	<p>EE AUC ↑ 22%⁷²</p> <p>No significant effect on NE⁷²</p>
Clinical Studies	<p>COC</p> <ul style="list-style-type: none"> • No ovulations⁷²
Justification/Evidence for Recommendation	<p>For COCs, one study found no ovulations and no significant change in progestin levels.</p> <p>No data on POPs</p>
Nevirapine (NVP)	
Dosing Recommendation/Clinical Comment for COC/P/R, POPs, DMPA^a, ENG Implants	No additional contraceptive protection is needed.
Effect on Contraceptive Drug Levels and the Contraceptive's Effects on ART and HIV	<p>EE AUC ↓ 29%⁷³; no change in EE AUC⁷⁴</p> <p>NE AUC ↓ 18%⁷³</p> <p>ENG (in COC) C_{24h} ↓ 22%⁵⁹</p> <p>DMPA</p> <ul style="list-style-type: none"> • No significant change⁴²

Table 3. Drug Interactions Between Antiretroviral Agents and Hormonal Contraception

	<p>LNG Implant</p> <ul style="list-style-type: none"> • LNG AUC ↑ 35%⁵⁰ • ↑ pregnancy incidence rate among women using LNG or ENG implants, more among ENG users⁶³ <p>Changes in ARV Levels and/or Effects on HIV</p> <p><i>COC</i></p> <ul style="list-style-type: none"> • No significant effect on NVP levels^{71,73,75} <p><i>DMPA</i></p> <ul style="list-style-type: none"> • No effect on HIV disease progression^{42,67,68,76} <p><i>LNG Implant</i></p> <ul style="list-style-type: none"> • No effect on HIV disease progression^{50,77}
Clinical Studies	<p>COC</p> <ul style="list-style-type: none"> • No increase in pregnancy rate^{48,69,70,78,79} • No ovulations^{71,74,79} <p>DMPA</p> <ul style="list-style-type: none"> • No increase in pregnancy rates^{48,68,69,78} • Low serum progesterone, consistent with no ovulation⁴² <p>ENG Implant</p> <ul style="list-style-type: none"> • No increase in pregnancy rate⁴⁸ <p>LNG Implant</p> <ul style="list-style-type: none"> • No increase in pregnancy rate^{47,48,50,69,77}
Justification/Evidence for Recommendation	<p>For COCs, evidence does not show effects on pregnancy rate or ovulations. Evidence demonstrated a small decrease in progestin levels. No effect on NVP levels.</p> <p>For DMPA, evidence does not show effects on pregnancy rate, ovulation, or DMPA levels. No effect on HIV disease progression.</p> <p>For implants, evidence does not show effects on pregnancy rate or HIV disease progression.</p>
Rilpivirine (Oral^b RPV)	
Dosing Recommendation/Clinical Comment for COC/P/R, POPs, DMPA^a, ENG or LNG Implants	No additional contraceptive protection is needed.
Effect on Contraceptive Drug Levels and the Contraceptive's Effects on ART and HIV	<p>EE AUC ↑ 14%⁸⁰</p> <p>No significant change on NE⁸⁰</p>

Table 3. Drug Interactions Between Antiretroviral Agents and Hormonal Contraception

	<p>Changes in ARV Levels and/or Effects on HIV</p> <p>COC</p> <ul style="list-style-type: none"> No change in RPV levels compared with historical controls⁸⁰ <p>ENG or LNG Implants</p> <ul style="list-style-type: none"> ENG and LNG concentrations not altered with RPV-based ART³⁸
Clinical Studies	<p>COC</p> <ul style="list-style-type: none"> No change in progesterone⁸⁰
Justification/Evidence for Recommendation	<p>For COCs, evidence does not show effects on ovulation or progestin levels. No change in RPV levels.</p> <p>No data on POPs</p>
Doravirine (DOR)	
Dosing Recommendation/Clinical Comment for COC/P/R, POPs, DMPA ^a , ENG Implants	No additional contraceptive protection is needed.
Effect on Contraceptive Drug Levels and the Contraceptive's Effects on ART and HIV	No clinically significant interaction with EE and LNG ⁸¹
Clinical Studies	N/A
Justification/Evidence for Recommendation	No clinical data
Ritonavir (RTV)-Boosted Protease Inhibitors (PIs)	
Atazanavir/Ritonavir (ATV/r)	
Dosing Recommendation/Clinical Comment for COC/P/R, POPs, DMPA ^a , ENG Implants	No additional contraceptive protection is needed.
Effect on Contraceptive Drug Levels and the Contraceptive's Effects on ART and HIV	<p>EE AUC ↓ 19%⁸²</p> <p>Norgestimate AUC ↑ 85%⁸²</p> <p>POP</p> <ul style="list-style-type: none"> NE AUC ↑ 50%⁸³ <p>Vaginally Administered ENG/EE</p> <ul style="list-style-type: none"> ENG ↑ 71% EE ↓ 38%⁵⁶
Clinical Studies	N/A
Justification/Evidence for Recommendation	<p>For COCs, increase in progestin levels seen in only one study. Using a COC with at least 35 mcg/day may decrease breakthrough bleeding.</p> <p>For POPs, increase in progestin levels seen in only one study</p> <p>RTV inhibits CYP3A4, which may increase contraceptive hormone levels.</p>

Table 3. Drug Interactions Between Antiretroviral Agents and Hormonal Contraception

Darunavir/Ritonavir (DRV/r)	
Dosing Recommendation/Clinical Comment for COC/P/R, POPs, and ENG or LNG Implants	If efficacy is of primary importance, can consider an alternative method (or a reliable method of barrier contraception in addition to this method)
Dosing Recommendation/Clinical Comment for DMPA ^a	No additional contraceptive protection is needed.
Effect on Contraceptive Drug Levels and the Contraceptive's Effects on ART and HIV	EE AUC ↓ 44% ⁴⁰ NE AUC ↓ 14% ⁴⁰ ENG or LNG Implants <ul style="list-style-type: none"> • Progestin concentrations higher with DRV/r-based ART but no related adverse effects³⁸
Clinical Studies	N/A
Justification/Evidence for Recommendation	For COCs, small decrease in progestin levels No data on POPs
Lopinavir/Ritonavir (LPV/r)	
Dosing Recommendation/Clinical Comment for COC/P/R, POPs, DMPA ^a , ENG Implants	No additional contraceptive protection is needed.
Effect on Contraceptive Drug Levels and the Contraceptive's Effects on ART and HIV	EE AUC ↓ 55% ⁸⁴ NE AUC ↓ 17% Patch <ul style="list-style-type: none"> • EE AUC ↓ 45%⁸⁴ • Norelgestromin AUC ↑ 83%⁸⁴ DMPA <ul style="list-style-type: none"> • DMPA AUC ↑ 46%⁴⁴ ENG Implant <ul style="list-style-type: none"> • ENG AUC ↑ 52%⁶² Changes in ARV Levels and/or Effects on HIV <i>Patch</i> <ul style="list-style-type: none"> • LPV/r ↓ 19%⁸⁴ <i>DMPA</i> <ul style="list-style-type: none"> • No effect on HIV disease progression⁴⁴ • No change in LPV/r levels⁴⁴
Clinical Studies	COC <ul style="list-style-type: none"> • Trend of increased pregnancy rate, but CIs overlap⁴⁸

Table 3. Drug Interactions Between Antiretroviral Agents and Hormonal Contraception

	<p>Patch</p> <ul style="list-style-type: none"> • Low serum progesterone⁸⁴ consistent with no ovulations (n = 8) <p>DMPA</p> <ul style="list-style-type: none"> • No pregnancies and no ovulations⁴⁴ • Trend of increased pregnancy rate, but CIs overlap⁴⁸ <p>ENG Implant</p> <ul style="list-style-type: none"> • No increase in pregnancy rate⁴⁸ <p>LNG Implant</p> <ul style="list-style-type: none"> • No increase in pregnancy rate^{47,48}
Justification/Evidence for Recommendation	<p>For COCs, nonsignificant increase in pregnancy rate and small decrease in progestin level.</p> <p>For patch, no ovulations, and progestin levels increased.</p> <p>For DMPA, evidence shows no effect on pregnancy rate or ovulations. Progestin levels increased.</p> <p>For implants, evidence shows no effect on pregnancy rate. Progestin levels increased.</p>
Cobicistat (COBI)-Boosted Protease Inhibitors (PIs)	
Atazanavir/Cobicistat (ATV/c)	
Dosing Recommendation/Clinical Comment for COC/P/R	Contraindicated with drospirenone-containing hormonal contraceptives due to potential for hyperkalemia.
Dosing Recommendation/Clinical Comment for POPs, DMPA ^a , ENG Implants	No additional contraceptive protection is needed.
Effect on Contraceptive Drug Levels and the Contraceptive's Effects on ART and HIV	<p>Drospirenone AUC ↑ 2.3-fold⁴¹</p> <p>No change in LNG concentration</p> <p>25% decrease in EE C24⁸⁵</p>
Clinical Studies	N/A
Justification/Evidence for Recommendation	No data on POPs
Darunavir/Cobicistat (DRV/c)	
Dosing Recommendation/Clinical Comment for COC/P/R	Clinical monitoring is recommended when DRV/c is used in combination with drospirenone-containing COCs as a result of the potential for hyperkalemia.
Dosing Recommendation/Clinical Comment for POPs, DMPA ^a , ENG Implants	No additional contraceptive protection is needed.

Table 3. Drug Interactions Between Antiretroviral Agents and Hormonal Contraception

Effect on Contraceptive Drug Levels and the Contraceptive's Effects on ART and HIV	Drospirenone AUC ↑ 1.6-fold EE AUC ↓ 30% ⁴¹
Clinical Studies	N/A
Justification/Evidence for Recommendation	No data on POPs
Protease Inhibitors (PIs) Without Ritonavir (RTV)	
Atazanavir (ATV)	
Dosing Recommendation/Clinical Comment for COC/P/R	Prescribe oral contraceptive that contains no more than 30 mcg of EE or recommend alternative contraceptive method.
Dosing Recommendation/Clinical Comment for POPs, DMPA ^a , ENG Implants	No additional contraceptive protection is needed.
Effect on Contraceptive Drug Levels and the Contraceptive's Effects on ART and HIV	COC <ul style="list-style-type: none"> • EE AUC ↑ 48%⁸⁶ • NE AUC ↑ 110%⁸⁶
Clinical Studies	N/A
Justification/Evidence for Recommendation	For COCs, increased concentrations of estrogen and progestin, but the only data available are from the product label. No data on POPs
CCR5 Antagonist	
Maraviroc (MVC)	
Dosing Recommendation/Clinical Comment for COC/P/R, POPs, DMPA ^a , ENG Implants	No additional contraceptive protection is needed.
Effect on Contraceptive Drug Levels and the Contraceptive's Effects on ART and HIV	COC <ul style="list-style-type: none"> • No significant effect on EE or LN⁸⁷
Clinical Studies	N/A
Justification/Evidence for Recommendation	For COCs, no change in EE or progestin concentrations. No clinical data. No data on POPs
Integrase Strand Transfer Inhibitors (INSTIs)	
Bictegravir/Emtricitabine/Tenofovir Alafenamide (BIC/FTC/TAF)	
Dosing Recommendation/Clinical Comment for COC/P/R, POPs, DMPA ^a , ENG Implants	No additional contraceptive protection is needed.
Effect on Contraceptive Drug Levels and the Contraceptive's Effects on ART and HIV	No significant drug interactions with EE or norgestimate

Table 3. Drug Interactions Between Antiretroviral Agents and Hormonal Contraception

Clinical Studies	N/A
Justification/Evidence for Recommendation	No clinical data
Dolutegravir (DTG)	
Dosing Recommendation/Clinical Comment for COC/P/R, POPs, DMPA ^a , ENG Implants	No additional contraceptive protection is needed.
Effect on Contraceptive Drug Levels and the Contraceptive's Effects on ART and HIV	<p>COC</p> <ul style="list-style-type: none"> • No significant effect on ENG implants⁶⁰ • No significant effect on norgestimate or EE • No change in DTG AUC⁸⁸
Clinical Studies	N/A
Justification/Evidence for Recommendation	<p>For COCs, no change in EE or progestin. No clinical data.</p> <p>No data on POPs</p>
Elvitegravir/Cobicistat (EVG/c)	
Dosing Recommendation/Clinical Comment for COC/P/R, POPs, DMPA ^a , ENG Implants	No additional contraceptive protection is needed.
Effect on Contraceptive Drug Levels and the Contraceptive's Effects on ART and HIV	<p>COC</p> <ul style="list-style-type: none"> • Norgestimate AUC ↑ 126% • EE AUC ↓ 25%^{89,90}
Clinical Studies	N/A
Justification/Evidence for Recommendation	<p>When administered as the four-drug regimen EVG/c/FTC/TDF, increases in progestin and a small decrease in EE were observed. No clinical data.</p> <p>No data on POPs</p>
Raltegravir (RAL)	
Dosing Recommendation/Clinical Comment for COC/P/R, POPs, DMPA ^a , ENG Implants	No additional contraceptive protection is needed.
Effect on Contraceptive Drug Levels and the Contraceptive's Effects on ART and HIV	<p>COC</p> <ul style="list-style-type: none"> • No change in EE • Norgestimate AUC ↑ 14%⁹¹
Clinical Studies	N/A
Justification/Evidence for Recommendation	<p>For COCs, no change in EE concentrations and a small increase in progestin concentrations. No clinical data.</p> <p>No data on POPs.</p>

Table 3. Drug Interactions Between Antiretroviral Agents and Hormonal Contraception

Long-Acting Cabotegravir (CAB-LA)	
Dosing Recommendation/Clinical Comment for COC/P/R, POPs, DMPA ^a , ENG Implants	No additional contraceptive protection is needed.
Effect on Contraceptive Drug Levels and the Contraceptive's Effects on ART and HIV	Oral contraceptive use was associated with lower CAB-LA C _{max} than for women not on any hormonal contraception (GMR 0.75; 90% CI, 0.59–0.93; P = 0.033). However, oral contraceptive use did not result in significant differences in other CAB-LA PK parameters.
Clinical Studies	N/A
Justification/Evidence for Recommendation	Although oral contraceptive use was associated with lower CAB-LA peak concentration, no differences in other PK parameters were observed, suggesting that the association is not likely to be clinically significant.
Entry and Attachment Inhibitors	
Fostemsavir (FTR)	
Dosing Recommendation/Clinical Comment for COC/P/R, POPs, DMPA ^a , ENG Implants	No additional contraceptive protection is needed.
Effect on Contraceptive Drug Levels and the Contraceptive's Effects on ART and HIV	Temsavir (the active moiety of FTR) increased EE concentrations by 40% but had no effect on NE concentrations. EE dose should not exceed 30 µg or equivalent. ⁹² FTR did not impact progestin. Progestin-only and nonhormonal contraceptives will not be affected by FTR.
Clinical Studies	N/A
Justification/Evidence for Recommendation	No clinical data

^a Because the hormonal levels achieved with DMPA are substantially higher than the levels that are required for contraception, any small reduction in hormonal level attributed to ARV drugs is unlikely to reduce contraceptive effectiveness.

^b No data are available for long-acting RPV.

Key to Symbols:

↑ = increase
↓ = decrease

Key: ART = antiretroviral therapy; ARV = antiretroviral; ATV = atazanavir; ATV/c = atazanavir/cobicistat; ATV/r = atazanavir/ritonavir; AUC = area under the curve; BIC = bictegravir; C_{12h} = concentration at 12 hours postdose; C_{24h} = concentration at 24 hours postdose; CAB-LA = long-acting cabotegravir; CI = confidence interval; C_{max} = maximum plasma concentration; COBI = cobicistat; COC = combined oral contraceptives; COC/P/R = COC/patch/ring; CYP = cytochrome P450; DMPA = depot medroxyprogesterone acetate; DOR = doravirine; DRV/c = darunavir/cobicistat; DRV/r = darunavir/ritonavir; DTG = dolutegravir; EC = emergency contraception; EE = ethinyl estradiol; EFV = efavirenz; ENG = etonogestrel; ETR = etravirine; EVG/c = elvitegravir/cobicistat; FTC = emtricitabine; FTR = fostemsavir; GMR = geometric mean ratio; INH = isoniazid; INSTI = integrase strand transfer inhibitor; LNG = levonorgestrel; LPV/r = lopinavir/ritonavir; MVC = maraviroc; NE = norethindrone; NNRTI = non-nucleoside reverse transcriptase inhibitor; NVP = nevirapine; PI = protease inhibitor; PK = pharmacokinetic; POP = progesterone-only oral contraceptive pills; RAL = raltegravir; RPV = rilpivirine; RTV = ritonavir; TAF = tenofovir alafenamide; TDF = tenofovir disoproxil fumarate

Sources: Panel on Antiretroviral Guidelines for Adults and Adolescents; [Adult and Adolescent Antiretroviral Guidelines](#); [Table 24a](#), [Table 24b](#), and [Table 24d](#).

Table 4. HIV-Related Antepartum Screenings and Assessments During Pregnancy^a

Antepartum Screenings and Assessments	At Entry into Antenatal Care	At Each Visit	As Clinically Indicated
Assessment of ART adherence, adherence challenges, and facilitators	✓	✓	✓
Assessment of the need for prophylaxis against opportunistic infections, e.g., <i>Pneumocystis jirovecii</i> pneumonia ^b	✓		✓
Screening for HAV, HBV, and HCV and assessment of vaccination or treatment needs ^c	✓		
Assessment and provision of other vaccination needs, e.g., influenza, pneumococcus, Tdap, SARS-CoV-2 (including boosters) ^d	✓		✓
Tuberculosis screening ^e	✓		✓
STI screening, e.g., syphilis, <i>Chlamydia trachomatis</i> , <i>Trichomonas vaginalis</i> , and <i>Neisseria gonorrhoea</i>	✓		✓ ^f
Screening for depression and anxiety	✓		✓
Screening for IPV	✓		✓
Assessment of the need for supportive care, e.g., social services, mental health services, substance use disorder treatment services, smoking cessation	✓	✓	✓

^a Provide or refer for needed services based on the results of screenings and assessments, e.g., immunizations, treatment, referrals.

^b Prophylaxis against *Pneumocystis jirovecii* pneumonia is recommended during pregnancy when CD4 count is <200 cells/mL. See [Pneumocystis Pneumonia](#) in the [Adult and Adolescent Opportunistic Infections Guidelines](#).

^c See [Hepatitis B Virus/HIV Coinfection](#) and [Hepatitis C Virus/HIV Coinfection](#) for guidance regarding immunizations and treatment.

^d See [Pregnancy and Vaccination](#) and [Maternal Immunizations](#) for additional information.

^e Includes screening for active and latent tuberculosis; stepwise screening for active tuberculosis may begin with exposure history and symptom screening (see [Mycobacterium tuberculosis Infection and Disease](#)). If screening for latent tuberculosis was performed and negative in the last year, repeat testing is not necessary for those at low risk for repeated or ongoing exposure to people with active tuberculosis.

^f Repeat STI screening, particularly for syphilis, chlamydia, and gonorrhea, is often repeated in the third trimester (see [Recommended Clinician Timeline for Screening for Syphilis, HIV, HBV, HCV, Chlamydia, and Gonorrhea](#)).

Key: ART = antiretroviral therapy; HAV = hepatitis A virus; HBV = hepatitis B virus; HCV = hepatitis C virus; IPV = intimate partner violence; STI = sexually transmitted infection; Tdap = tetanus, diphtheria, and pertussis vaccine

Table 5. HIV-Related Laboratory Monitoring Schedule During Pregnancy^a

Laboratory Test	Timepoint or Frequency of Testing						
	Entry Into Antenatal Care ^b	ART Initiation or Modification	2 to 4 Weeks After ART Initiation or Modification	Monthly	Every 3 Months During Pregnancy	At 24 to 28 Weeks Gestation	At Approximately 36 Weeks of Gestation or Within 4 Weeks of Planned Delivery
HIV RNA Levels ^c	✓ ^b	✓ If a result is not available within 2 weeks of ART initiation or modification	✓	✓ Until HIV RNA levels are undetectable	✓ At least every 3 months ^d		✓
CD4 Count ^e	✓ ^b				✓ Patients who have been on ART for <2 years and have CD4 counts of <300 cells/mm ³ , those with inconsistent adherence, or those with detectable viral loads should have CD4 counts monitored every 3 months during pregnancy. ^e		

Table 5. HIV-Related Laboratory Monitoring Schedule During Pregnancy

Laboratory Test	Timepoint or Frequency of Testing						
	Entry Into Antenatal Care ^b	ART Initiation or Modification	2 to 4 Weeks After ART Initiation or Modification	Monthly	Every 3 Months During Pregnancy	At 24 to 28 Weeks Gestation	At Approximately 36 Weeks of Gestation or Within 4 Weeks of Planned Delivery
Resistance Testing ^f		✓					
HLA-B*5701 Testing		✓ If abacavir use is anticipated					
Standard Screening for Gestational Diabetes ^g						✓	
Complete Blood Cell Count; Renal Function	✓	✓ With additional testing as clinically indicated					
Liver Function	✓	✓			✓ With additional testing as clinically indicated		
Monitoring for ARV-Specific Toxicities ^h	Refer to the recommendations in the package inserts for the individual ARV drugs.						

Table 5. HIV-Related Laboratory Monitoring Schedule During Pregnancy

^a For additional information, see [Laboratory Testing](#) in the [Adult and Adolescent Antiretroviral Guidelines](#).

^b Prior HIV-related illnesses and past plasma HIV RNA levels and CD4 counts should be reviewed at entry into antenatal care.

^c The plasma HIV RNA levels of pregnancies impacted by HIV should be monitored at the initial antenatal visit with a review of prior HIV RNA levels **(AI)**, 2 to 4 weeks after initiating (or changing) ART **(BI)**, monthly until RNA levels are undetectable **(BIII)**, and then at least every 3 months during pregnancy **(BIII)**. Obtain an HIV RNA level at the time of ART initiation or modification if a recent result within 2 weeks prior is not available.

^d More frequent viral load monitoring (every 1–2 months) may be indicated for patients who are taking ARVs that have been shown to have reduced drug levels in the second and third trimesters (e.g., cobicistat, elvitegravir, rilpivirine) and are potentially at risk for loss of viral suppression (see [Table 6](#), [Table 7](#), and [Antiretroviral Therapy Use During Prepregnancy and Early Pregnancy](#)).

^e CD4 count should be measured at the initial antenatal visit **(AI)**. Patients who have been on ART for ≥ 2 years and who have had consistent viral suppression and CD4 counts that are consistently >300 cells/mm³ do not need to have their CD4 counts monitored after the initial antenatal visit during this pregnancy, per the [Adult and Adolescent Antiretroviral Guidelines](#) **(CIII)**. Patients who have been on ART for <2 years and have CD4 counts of <300 cells/mm³, those with inconsistent adherence, or those with detectable viral loads should have CD4 counts monitored every 3 months during pregnancy **(CIII)**. Those on ART <2 years and with CD4 counts >300 cells/mm³ should have CD4 monitored every 6 months.

^f ARV drug-resistance testing (genotypic testing and, if indicated, phenotypic testing) should be performed in patients whose HIV RNA levels are above the threshold for standard resistance testing (usually >500 copies/mL to 1,000 copies/mL but may be possible for HIV RNA >200 to ≤ 500 copies in some laboratories). Testing should be performed before—

- Initiating ART in pregnancy when ARV drugs were never taken previously and testing for ARV drug resistance was not previously conducted **(AII)**;
- Initiating ART in pregnancy when ARV drugs were previously being taken **(AIII)**; *or*
- Modifying ARV regimens for pregnancy that occurs while receiving ARV drugs or for suboptimal virologic response to ARV drugs that were started during pregnancy **(AII)**.

ART should be initiated in pregnancy prior to receiving the results of ARV-resistance tests. ART should be modified, if necessary, based on the results of the resistance tests **(BIII)**.

^g Patients who are taking ART during pregnancy should undergo standard gestational diabetes screening **(AIII)**.

^h Laboratory testing to monitor complications of ARV drugs during pregnancy should be based on what is known about the adverse effects of the drugs being taken (e.g., hematologic monitoring for those receiving ART regimens containing zidovudine, serum creatinine monitoring for those receiving ART regimens containing tenofovir) **(AIII)**.

Key: ART = antiretroviral therapy; ARV = antiretroviral; CD4 = CD4 T lymphocyte

Table 6. What to Start: Initial Antiretroviral Regimens During Pregnancy When Antiretroviral Therapy Has Never Been Received

Updated: June 12, 2025

Reviewed: June 12, 2025

Recommendations for initial antiretroviral therapy (ART) during pregnancy are intended when there **has never been prior receipt of ART or antiretroviral (ARV) drugs for prophylaxis** (i.e., ARV-naïve) and there is no evidence of significant resistance to regimen components (see [Lack of Experience With Antiretroviral Drugs During Pregnancy and Prior to Pregnancy \[Antiretroviral-Naïve\]](#)). Recommendations about the use of ARVs in other scenarios are detailed in [Table 7. Situation-Specific Recommendations for Use of Antiretroviral Drugs During Pregnancy and When Trying to Conceive](#).

In general, the Panel on Treatment of HIV During Pregnancy and Prevention of Perinatal Transmission (the Panel) recommends that **pre-pregnancy regimens should be continued when pregnancy occurs on fully suppressive ARV regimens**, unless these regimens include an ARV drug or ARV regimen that is not recommended for use in nonpregnant adults or concerns exist about safety and inferior efficacy during pregnancy (see [Table 7](#) and [Antiretroviral Therapy Use During Prepregnancy and Early Pregnancy](#)). Clinicians may need to consider additional factors when initiating ART in patients who previously received ART or ARV drugs for prophylaxis (see [Previous Experience With Antiretroviral Medications but Not on Antiretroviral Therapy During Current Pregnancy](#) and [Table 7](#)).

Whenever possible, changes in ARV regimens should be timed so that viral suppression can be achieved before attempts at becoming pregnant begin (see [Table 7](#)).

Regimens are listed alphabetically within each drug class and recommendation category for initial therapy when there has never been prior ART or ARV exposure (ARV-naïve), so the order does not indicate a ranking of preference. In addition, except where noted below, the Panel makes no recommendation for one agent or regimen over another within each category (e.g., among *Preferred* or *Alternative* medications). The table also indicates ARV drugs or regimens that are available in fixed-dose combination tablets. Patients and providers should make shared decisions about which ARV drugs to use during pregnancy after discussing the benefits of ART and the known and potential health risks during pregnancy and risks to fetuses and infants (see [Appendix C: Antiretroviral Counseling Guide for Health Care Providers](#) and [Recommendations for Use of Antiretroviral Drugs During Pregnancy: Overview](#)).

Note: For more information about the use of specific drugs and dosing in pregnancy, see [Table 7](#), the individual drug sections in [Appendix B: Safety and Toxicity of Individual Antiretroviral Agents in Pregnancy](#), and [Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy](#).

Table 6. What to Start: Initial Antiretroviral Regimens During Pregnancy When Antiretroviral Therapy Has Never Been Received

<i>Preferred Initial Regimens in Pregnancy</i>		
<p>Drugs or drug combinations are designated as <i>Preferred</i> for therapy during pregnancy when clinical trial data in adults have demonstrated efficacy and durability with acceptable toxicity and ease of use, and pregnancy-specific PK data are available to guide dosing. In addition, the available data must suggest a favorable risk-benefit balance for the drug or drug combination compared with other ARV drug options; the assessment of risks and benefits should incorporate outcomes for health during pregnancy as well as the health of the fetus and infant. Some <i>Preferred</i> drugs or regimens may have minimal toxicity or teratogenicity risks that are offset by other advantages during pregnancy or when trying to conceive. Therefore, it is important to read all the information on each drug in the Perinatal Guidelines before administering any of these medications to patients (see Appendix B: Safety and Toxicity of Individual Antiretroviral Agents in Pregnancy).</p>		
<i>Preferred Dual-NRTI Backbones</i>	Advantages	Disadvantages
<p>TAF/FTC <i>or</i> TAF Plus 3TC</p>	<ul style="list-style-type: none"> • Once-daily dosing • Available as an FDC • Reassuring PK data and extensive use during pregnancy; no dose adjustment required in pregnancy • Both NRTI combinations active against HBV • Minimal toxicity compared with ZDV/3TC • When combined with DTG, the efficacy and toxicity of TAF/FTC and TDF/FTC in pregnancy are similar, but TAF/FTC is associated with fewer adverse birth outcomes and less risk of insufficient weight gain in pregnancy. 	<ul style="list-style-type: none"> • When combined with DTG, TAF/FTC is associated with more treatment-emergent obesity in nonpregnant adult women compared to TDF/FTC. (Notably, the impact on weight gain in pregnancy may be beneficial, as noted in the Advantages column.)
<p>TDF/FTC <i>or</i> TDF/3TC</p>	<ul style="list-style-type: none"> • Once-daily dosing • Available as an FDC • Reassuring PK data and extensive use during pregnancy; no dose adjustment required in pregnancy • Both NRTI combinations active against HBV • When combined with DTG, the efficacy and toxicity of TAF/FTC and TDF/FTC in pregnancy are similar. 	<ul style="list-style-type: none"> • Potential concerns about fetal bone and early-life growth abnormalities exist with TDF, although clinical findings are reassuring to date. • TDF has potential renal toxicity; thus, TDF-based, dual-NRTI combinations should be used with caution in patients with renal insufficiency.

Table 6. What to Start: Initial Antiretroviral Regimens During Pregnancy When Antiretroviral Therapy Has Never Been Received

Preferred INSTI Regimens	Advantages	Disadvantages
BIC/TAF/FTC (FDC)	<ul style="list-style-type: none"> • Co-formulated as a single, once-daily pill; for this reason, may be preferred over DTG to support adherence • High barrier to resistance • No food requirement • No dose adjustment required in pregnancy • No safety concerns observed • High rates of viral suppression • BIC/TAF/FTC is a Preferred regimen for initial treatment in people with early (acute or recent) HIV infection without a history of CAB exposure for PrEP; see Early (Acute or Recent) HIV Infection and the Adult and Adolescent Antiretroviral Guidelines. 	<ul style="list-style-type: none"> • PK and safety data in pregnancy suggest sufficient efficacy and safety of BIC for its use as a Preferred initial agent in pregnancy when there has not been prior ARV or ART experience (ARV-naïve). Drug levels are lower in the second and third trimester of pregnancy than in nonpregnant or postpartum patients and are reduced in later pregnancy to a greater degree for BIC than for DTG, but BIC levels remained above the protein-adjusted EC₉₅ during pregnancy and therefore are anticipated to suppress viral load. • Potential concerns about excess weight gain • Specific timing and/or fasting recommendations apply if BIC is taken with calcium or iron (e.g., in prenatal vitamins; see Table 14 and Bictegravir for details). • BIC/TAF/FTC is not Preferred for initial treatment in people with early (acute or recent) HIV infection and a history of CAB-LA exposure for PrEP due to concerns about INSTI resistance mutations, unless genotype testing has demonstrated an absence of INSTI resistance mutations; DRV/r is Preferred in this situation; see the Adult and Adolescent Antiretroviral Guidelines.
DTG Plus a Preferred Dual-NRTI Backbone	<ul style="list-style-type: none"> • Once-daily dosing • Sufficient data about PK, efficacy, and safety of DTG in pregnancy • High rates of viral suppression • Dose adjustments during pregnancy are not needed. • May be particularly useful when drug interactions or the potential for preterm birth with a PI-based regimen are a concern. • DTG has been shown to rapidly decrease viral load in pregnancy when presentation to care is late in pregnancy and there is no prior experience with ART or ARVs (ARV-naïve). In nonpregnant adults, DTG is associated with lower rates of INSTI resistance than RAL, and DTG allows for once-daily dosing; for these reasons, DTG is particularly useful in scenarios of presentation to care late in pregnancy. 	<ul style="list-style-type: none"> • Potential concerns about excess weight gain • Do not use DTG/3TC in the setting of HBV coinfection without another HBV agent. • Specific timing and/or fasting recommendations apply if DTG is taken with calcium or iron (e.g., in prenatal vitamins; see Table 14). • DTG is not Preferred for initial treatment in people with early (acute or recent) HIV infection and a history of CAB-LA exposure for PrEP due to concerns about INSTI resistance mutations unless genotype testing has demonstrated an absence of INSTI resistance mutations; DRV/r is Preferred in this situation; see the Adult and Adolescent Antiretroviral Guidelines. • In the U.S., not available as an FDC

Table 6. What to Start: Initial Antiretroviral Regimens During Pregnancy When Antiretroviral Therapy Has Never Been Received

	<ul style="list-style-type: none"> DTG with a NRTI backbone of TAF or TDF with 3TC or FTC is a <i>Preferred</i> regimen for initial treatment in people with early (acute or recent) HIV infection without a history of CAB exposure for PrEP; see Early (Acute or Recent) HIV Infection and the Adult and Adolescent Antiretroviral Guidelines. 	
<i>Preferred</i> PI Regimens	Advantages	Disadvantages
DRV/r Plus a <i>Preferred</i> Dual-NRTI Backbone	<ul style="list-style-type: none"> DRV/r is a <i>Preferred</i> PI for initial therapy only in certain circumstances (e.g., exposure to CAB-LA when genotype testing is unavailable or demonstrates INSTI resistance mutations). See DRV/r under <i>Alternative</i> PI Regimens below for full details. 	<ul style="list-style-type: none"> See DRV/r under <i>Alternative</i> PI Regimens below.

Table 6. What to Start: Initial Antiretroviral Regimens During Pregnancy When Antiretroviral Therapy Has Never Been Received

<i>Alternative Initial Regimens in Pregnancy</i>		
<p>Drugs or drug combinations are designated as <i>Alternative</i> options for therapy during pregnancy when clinical trial data in adults show efficacy and the data in pregnancy are generally favorable but limited. Most <i>Alternative</i> drugs or regimens are associated with more PK, dosing, tolerability, formulation, administration, or interaction concerns than those in the <i>Preferred</i> category, but they are acceptable for use in pregnancy. Some <i>Alternative</i> drugs or regimens may have known toxicity or teratogenicity risks that are offset by other advantages for during pregnancy or when trying to conceive. Therefore, it is important to read all the information on each drug in the Perinatal Guidelines before administering any of these medications to patients (see Appendix B: Safety and Toxicity of Individual Antiretroviral Agents in Pregnancy).</p>		
<i>Alternative INSTI Regimens</i>	Advantages	Disadvantages
DTG/ABC/3TC (FDC)	<ul style="list-style-type: none"> Once-daily dosing DTG/ABC/3TC is available as an FDC. See above section about DTG for other details. 	<ul style="list-style-type: none"> Potential concerns about excess weight gain DTG/ABC/3TC requires HLA-B*5701 testing before use (see ABC/3TC below). Do not use DTG/ABC/3TC or DTG/3TC in the setting of HBV coinfection without another HBV agent. See above section about DTG for other details.
RAL Plus a <i>Preferred</i> Dual-NRTI Backbone	<ul style="list-style-type: none"> No safety concerns observed. Like DTG, RAL may be particularly useful when drug interactions or the potential for preterm birth with PI-based regimens are a concern. PK data are available for RAL in pregnancy when using the twice-daily formulation (400 mg twice daily). Like DTG, RAL has been shown to rapidly decrease viral load in pregnancy when presentation to care is late in pregnancy and there is no prior experience with ART or ARVs (ARV-naïve). In nonpregnant adults, DTG is associated with lower rates of INSTI resistance than RAL, and DTG permits once-daily dosing; for these reasons, DTG is <i>Preferred</i> and RAL is <i>Alternative</i> for use during pregnancy. 	<ul style="list-style-type: none"> Twice-daily dosing in pregnancy is recommended due to low drug level with once-daily dosing during pregnancy. Not available as an FDC Lower barrier to resistance than DTG; for this reason, RAL is <i>Alternative</i> for use during pregnancy PK data are not available for the once-daily 1,200 mg (2 × 600 mg) extended-release formulation (raltegravir HD) in pregnancy. Specific timing and/or fasting recommendations apply if RAL is taken with calcium or iron (e.g., in prenatal vitamins; see Table 14 and Raltegravir for details).
<i>Alternative PI Regimens</i>	Advantages	Disadvantages
ATV/r Plus a <i>Preferred</i> Dual-NRTI Backbone	<ul style="list-style-type: none"> Once-daily dosing Extensive experience during pregnancy 	<ul style="list-style-type: none"> Not available as an FDC Associated with increased maternal indirect bilirubin levels, which theoretically may increase the risk of neonatal hyperbilirubinemia. No clinically significant neonatal hyperbilirubinemia or kernicterus reported, but neonatal bilirubin monitoring is recommended.

Table 6. What to Start: Initial Antiretroviral Regimens During Pregnancy When Antiretroviral Therapy Has Never Been Received

		<ul style="list-style-type: none"> • Requires increased dosing in the second or third trimester • Has been associated with small but significant reductions in language and social-emotional scores and late language • PIs may increase the risk of preterm birth. • Cannot be used with PPIs • Requires consideration of timing when dosed with H2 blockers, which are commonly used during pregnancy (see Table 14).
DRV/r Plus a <i>Preferred</i> Dual-NRTI Backbone	<ul style="list-style-type: none"> • When a PI-based regimen is indicated, DRV/r is recommended over ATV. However, DRV/r requires twice-daily dosing in pregnancy, and dosing frequency affects adherence. For that reason, when use of a PI-based regimen is indicated during pregnancy, some Panel members would use ATV/r rather than DRV/r for ART. • DRV/r with a NRTI backbone of TAF or TDF with 3TC or FTC is the <i>Preferred</i> regimen for initial treatment in people with early (acute or recent) HIV infection <i>and</i> a history of CAB-LA exposure for PrEP, see Early (Acute or Recent) HIV Infection and the Adult and Adolescent Antiretroviral Guidelines. 	<ul style="list-style-type: none"> • Not available as an FDC • Requires twice-daily dosing during pregnancy • Requires administration with food • PIs may increase the risk of preterm birth.
<i>Alternative</i> Dual-NRTI Backbone	Advantages	Disadvantages
ABC/3TC	<ul style="list-style-type: none"> • Once-daily dosing • Available as an FDC • Well-tolerated during pregnancy • Reassuring PK data during pregnancy 	<ul style="list-style-type: none"> • Requires HLA-B*5701 testing before use. ABC should not be used in patients who test positive for HLA-B*5701 because of the risk of developing a hypersensitivity reaction. Requires education about hypersensitivity reactions. • Now classified as an <i>Alternative</i> ARV drug due to inability to start without HLA-B*5701 testing and concerns over cardiac safety. • ABC is not active against HBV; see Hepatitis B Virus/HIV Coinfection for recommended dual NRTI backbones. • ABC/3TC administered with ATV/r or EFV is not recommended if pre-treatment HIV RNA is >100,000 copies/mL.

Table 6. What to Start: Initial Antiretroviral Regimens During Pregnancy When Antiretroviral Therapy Has Never Been Received

		<ul style="list-style-type: none"> • ABC is not recommended as part of regimens for initial treatment of acute HIV 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.
ZDV/3TC	<ul style="list-style-type: none"> • Available as an FDC • Significant experience during pregnancy 	<ul style="list-style-type: none"> • Requires twice-daily dosing • Associated with higher rates of side effects, including nausea, headache, and reversible maternal and neonatal anemia and neutropenia • Other regimens have demonstrated similar or greater efficacy and fewer side effects.
<i>Alternative NNRTI Regimens</i>	Advantages	Disadvantages
EFV/TDF/FTC (FDC) or EFV/TDF/3TC (FDC) or EFV Plus a Preferred Dual-NRTI Backbone	<ul style="list-style-type: none"> • Once-daily dosing • Available as an FDC • Extensive experience in pregnancy • Not associated with increased risk of NTDs or other congenital anomalies in human studies (although cautionary text based on animal studies remains in the package insert); see Efavirenz and Table 14. • No dose changes required during pregnancy • Useful for patients who require treatment with drugs that have significant interactions with Preferred agents or who need the convenience of a co-formulated, single-tablet, once-daily regimen and are not eligible for DTG 	<ul style="list-style-type: none"> • Overall higher rates of adverse events than some Preferred drugs • Requires enhanced surveillance for depression and suicidality • Increased risk of adverse birth outcomes has been observed with EFV/TDF/FTC versus DTG/TAF/FTC started during pregnancy. • Increased risk of toxicity, including dizziness, fatigue, hepatotoxicity, vivid dreams/nightmares
RPV/TDF/FTC (FDC) or RPV/TAF/FTC (FDC) or RPV (Oral) Plus a Preferred Dual-NRTI Backbone	<ul style="list-style-type: none"> • Once-daily dosing • Available as an FDC • Useful for patients who require treatment with drugs that have significant interactions with Preferred agents or who need the convenience of a co-formulated, single-tablet, once-daily regimen and are not eligible for DTG 	<ul style="list-style-type: none"> • Limited use for individuals with high pre-treatment HIV RNA. RPV is not recommended in patients with pre-treatment HIV RNA >100,000 copies/mL or CD4 counts <200 cells/mm³. • Requires close viral monitoring in second and third trimesters because PK data suggest lower drug levels. Insufficient data to suggest dosing changes. • Requires consideration of timing when dosed with H2 blockers or PPIs, which are commonly used during pregnancy (see Table 14) • Requires administration with food
Insufficient Data for Use as Initial Regimens in Pregnancy		

Table 6. What to Start: Initial Antiretroviral Regimens During Pregnancy When Antiretroviral Therapy Has Never Been Received

<p>These drugs and drug combinations are approved for use in adults, but pregnancy-specific PK or safety data are too limited to make recommendations for use in pregnancy. When virologic suppression on one of these drugs or drug combinations is present when pregnancy occurs, providers and patients should consider whether to continue the current regimen or switch to a <i>Preferred</i> ARV regimen (see Antiretroviral Therapy Use During Prepregnancy and Early Pregnancy and Table 7). It is critical that providers report exposures to these medications in pregnancy to the Antiretroviral Pregnancy Registry.</p>		
<i>Insufficient Data</i>	Advantages	Disadvantages
<p>DOR <i>or</i> DOR/TDF/FTC</p>	<ul style="list-style-type: none"> • Co-formulated with TDF/FTC • No food requirement 	<ul style="list-style-type: none"> • Limited PK, toxicity, and efficacy data in pregnancy • Initial studies suggest potentially lower drug levels in third trimester.

Table 6. What to Start: Initial Antiretroviral Regimens During Pregnancy When Antiretroviral Therapy Has Never Been Received

<i>Not Recommended</i> for Use as Initial Regimens in Pregnancy		
<p>Drugs and drug combinations listed in this category are <i>Not Recommended</i> for initial use in pregnancy because of inferior virologic efficacy or potentially serious safety concerns for during pregnancy or for the fetus or because they are not recommended for initial therapy in nonpregnant adults. This category includes drugs or drug combinations for which PK data demonstrate low drug levels and risk of viral rebound during pregnancy. Levels of these drugs are often low in late pregnancy (during the second and third trimesters), when risk for perinatal transmission is high if viremia occurs (see Table 7 and Table 14).</p> <p>Note: When virologic suppression on one of these drugs or drug combinations is present when pregnancy occurs, providers and patients should consider whether to continue the current regimen or switch to a <i>Preferred</i> ARV regimen (see Antiretroviral Therapy Use During Prepregnancy and Early Pregnancy and Table 7).</p>		
<i>Not Recommended</i>	Advantages	Disadvantages
ATV/c		<ul style="list-style-type: none"> Limited existing data suggest insufficient levels of both COBI and ATV in second and third trimesters. Changing COBI component to RTV is likely to improve efficacy but will increase pill burden.
Long-Acting Injectable CAB Plus RPV (Co-packaged Formulation)	<ul style="list-style-type: none"> Injectable delivery may be more effective and/or more convenient than oral ART for some patients. Approved for nonpregnant adults who have RNA levels <50 copies/mL for at least 3 months on a stable oral ARV regimen, with no history of treatment failure and no known or suspected resistance 	<ul style="list-style-type: none"> Limited PK, toxicity, and efficacy data during pregnancy Not recommended as initial treatment for adults or adolescents (pregnant or nonpregnant) who have never received ARV drugs Due to the long half-life of injectable CAB and RPV, drug levels may persist up to 12 months after the last dose. Optimal timing of switch to an oral regimen is not known (see Management of People With HIV and Antiretroviral Therapy Experience in the Adult and Adolescent Antiretroviral Guidelines).
DRV/c (FDC) or DRV/c/FTC/TAF (FDC)	<ul style="list-style-type: none"> DRV/c/FTC/TAF is co-formulated as a single-tablet, once-daily regimen. 	<ul style="list-style-type: none"> Limited existing data suggest insufficient levels of COBI in second and third trimesters; viral breakthroughs have been reported. Changing COBI component to RTV is likely to improve efficacy but will increase pill burden; in addition to adding RTV as separate pill, both DRV and RTV should be dosed twice daily.
EVG/c/FTC/TAF (FDC) or EVG/c/FTC/TDF (FDC)	<ul style="list-style-type: none"> Co-formulated as single-tablet, once-daily regimen 	<ul style="list-style-type: none"> Limited existing data suggest insufficient levels of both COBI and EVG in second and third trimesters. Viral breakthrough at birth was identified in 26% of previously suppressed individuals in IMPAACT P1026. Data are insufficient to suggest dosing changes. Unlike for DRV/c and ATV/c, there is no option to replace COBI with RTV boosting. Specific timing and/or fasting recommendations apply, especially if taken with calcium or iron (e.g., in prenatal vitamins; see Table 14 and Elvitegravir for details).
<i>Not Recommended</i> for Initial Use in Pregnancy, but May Be Used in Special Circumstances of Substantial Prior ART Experience		

Table 6. What to Start: Initial Antiretroviral Regimens During Pregnancy When Antiretroviral Therapy Has Never Been Received

<p>These drugs are <i>Not Recommended</i> for initial use in pregnancy when there has never been prior receipt of ART or antiretroviral (ARV) drugs for prophylaxis (i.e., ARV-naïve). Except for NVP and LPV/r, data on the PK, safety, and efficacy of these drugs during pregnancy are limited.</p> <p>These drugs also are categorized as <i>Not Recommended</i> during pregnancy, except in special circumstances, because the Panel recognizes that circumstances may exist in which patients who are ART-experienced may need to initiate or continue these drugs during pregnancy to reach or maintain viral suppression (see Table 7).</p>		
<i>Not Recommended Except in Special Circumstances of Substantial Prior ART Experience</i>	Advantages	Disadvantages
ETR	<ul style="list-style-type: none"> Standard adult dose is appropriate during pregnancy in the special circumstance where ETR is used. 	<ul style="list-style-type: none"> Not recommended in nonpregnant individuals who are ART-naïve Limited PK, toxicity, and efficacy data during pregnancy
FTR		<ul style="list-style-type: none"> Not recommended in nonpregnant individuals who are ART-naïve Limited PK, toxicity, and efficacy data during pregnancy
IBA		<ul style="list-style-type: none"> Not recommended in nonpregnant individuals who are ART-naïve Limited PK, toxicity, and efficacy data during pregnancy Requires IV administration
LEN		<ul style="list-style-type: none"> Not recommended in nonpregnant individuals who are ART-naïve Limited PK, toxicity, and efficacy data during pregnancy Use is limited to multidrug-resistant HIV
LPV/r Plus a Preferred Dual-NRTI Backbone	<ul style="list-style-type: none"> Extensive experience during pregnancy Available as a liquid formulation when needed. LPV/r solution contains approximately 42% (v/v) ethanol and 15% (w/v) propylene glycol; it should be used with caution in pregnancy. 	<ul style="list-style-type: none"> Not recommended in nonpregnant individuals who are ART-naïve Requires twice-daily dosing in pregnancy; data suggest that once-daily LPV/r will not achieve sufficient plasma concentrations. Some experts recommend increased dosing in the second and third trimesters (see Table 14 and Lopinavir/Ritonavir). Associated with nausea and diarrhea Associated with increased risk of preterm birth and small-for-gestational-age neonatal status (see Antiretroviral Drug Regimens and Pregnancy Outcomes)
MVC	<ul style="list-style-type: none"> Limited data suggest standard adult dose is appropriate during pregnancy in the special circumstance where MVC is used. 	<ul style="list-style-type: none"> Not recommended in nonpregnant individuals who are ART-naïve Limited PK, toxicity, and efficacy data during pregnancy Requires tropism testing before use

Table 6. What to Start: Initial Antiretroviral Regimens During Pregnancy When Antiretroviral Therapy Has Never Been Received

NVP	<ul style="list-style-type: none"> Standard adult dosing is appropriate during pregnancy in the special circumstance where NVP is used. 	<ul style="list-style-type: none"> Not recommended in nonpregnant individuals who are ART-naïve Greater potential for adverse effects Low barrier to resistance Requires complex lead-in dosing NVP should be used with caution when initiating ART in pregnant people with CD4 counts >250 cells/mm³. Use NVP and ABC together with caution; both can cause hypersensitivity reactions in the first few weeks after initiation.
T-20		<ul style="list-style-type: none"> Not recommended in nonpregnant individuals who are ART-naïve Limited PK, toxicity, and efficacy data during pregnancy

Note: The following drugs and drug combinations (not listed above) should not be used during pregnancy; if pregnancy occurs while taking any of these medications, medications should be switched to a recommended regimen: d4T, ddI, FPV, FPV/r, IDV, IDV/r, NFV, RTV (as the sole PI), SQV, SQV/r, TPV, TPV/r, two-drug ARV regimens, or a three-NRTI ARV regimen (e.g., ABC/ZDV/3TC). See [Archived Drugs](#) in the Perinatal Guidelines and the [Adult and Adolescent Antiretroviral Guidelines](#) for individual ARV drugs, ARV combinations, and ARV regimens that are not recommended or that should not be used in adults.

Key: 3TC = lamivudine; ABC = abacavir; ART = antiretroviral therapy; ARV = antiretroviral; ATV = atazanavir; ATV/c = atazanavir/cobicistat; ATV/r = atazanavir/ritonavir; BIC = bictegravir; CD4 = CD4 T lymphocyte; CAB = cabotegravir; CAB-LA = long-acting cabotegravir; COBI = cobicistat; d4T = stavudine; ddI = didanosine; DOR = doravirine; DRV = darunavir; DRV/c = darunavir/cobicistat; DRV/r = darunavir/ritonavir; DTG = dolutegravir; EC₉₅ = 95% maximal effective concentration; EFV = efavirenz; ETR = etravirine; EVG = elvitegravir; EVG/c = elvitegravir/cobicistat; FDC = fixed-dose combination; FPV = fosamprenavir; FPV/r = fosamprenavir/ritonavir; FTC = emtricitabine; FTR = fostemsavir; H2 blocker = histamine H2-receptor antagonist; HBV = hepatitis B virus; HD = high dose; IBA = ibalizumab; IDV = indinavir; IDV/r = indinavir/ritonavir; IMPAACT = International Maternal Pediatric Adolescent AIDS Clinical Trials; INSTI = integrase strand transfer inhibitor; IV = intravenous; LEN = lenacapavir; LPV/r = lopinavir/ritonavir; MVC = maraviroc; NFV = nelfinavir; NNRTI = non-nucleoside reverse transcriptase inhibitor; NRTI = nucleoside reverse transcriptase inhibitor; NTD = neural tube defect; NVP = nevirapine; the Panel = the Panel on Treatment of HIV During Pregnancy and Prevention of Perinatal Transmission; PI = protease inhibitor; PK = pharmacokinetic; PPI = proton pump inhibitor; PrEP = pre-exposure prophylaxis; RAL = raltegravir; RPV = rilpivirine; RTV = ritonavir; SQV = saquinavir; SQV/r = saquinavir/ritonavir; T-20 = enfuvirtide; TAF = tenofovir alafenamide; TDF = tenofovir disoproxil fumarate; TPV = tipranavir; TPV/r = tipranavir/ritonavir; ZDV = zidovudine

Table 7. Situation-Specific Recommendations for Use of Antiretroviral Drugs During Pregnancy and When Trying to Conceive

Updated: June 12, 2025

Reviewed: June 12, 2025

People should be given information about the benefits and risks of initiating an antiretroviral regimen or making changes to an existing regimen during pregnancy or when trying to conceive so that they can make informed decisions about their care (see [Appendix C: Antiretroviral Counseling Guide for Health Care Providers](#)). Patient autonomy and informed choice should be considered in all aspects of medical care, including HIV and obstetric care. These are primary guiding principles in all the recommendations of the Panel on Treatment of HIV During Pregnancy and Prevention of Perinatal Transmission.

ART Regimen Component	Initiating ART in Pregnancy When ARV Drugs Have Never Previously Been Used	Continuing ART When Pregnancy Occurs on a Fully Suppressive, Well-Tolerated Regimen	Starting or restarting ART During Pregnancy When ARV Drugs Have Been Used in the Past ^a	Switching to a New ART Regimen During Pregnancy When Current Regimen Is Not Well Tolerated and/or Is Not Fully Suppressive	Starting ART When Trying to Conceive ^b
Integrase Strand Transfer Inhibitor (INSTI) Drugs Used in combination with a dual-nucleoside reverse transcriptase inhibitor (NRTI) backbone ^{c,d}					
DTG ^a	Preferred ^a	Continue	Preferred ^a	Preferred ^a	Preferred ^a
BIC ^{a,e}	Preferred ^{a,e}	Continue	Preferred ^{a,e}	Preferred ^e	Preferred ^{a,e}
RAL	Alternative	Continue	Alternative	Alternative	Alternative
CAB ^d Oral (lead-in) Long-acting (IM)	Not recommended ^d	Continue with frequent viral load monitoring or consider switching due to insufficient data. ^d	Insufficient data ^d	Insufficient data ^d	Insufficient data ^d

Table 7. Situation-Specific Recommendations for Use of Antiretroviral Drugs During Pregnancy and When Trying to Conceive

ART Regimen Component	Initiating ART in Pregnancy When ARV Drugs Have Never Previously Been Used	Continuing ART When Pregnancy Occurs on a Fully Suppressive, Well-Tolerated Regimen	Starting or restarting ART During Pregnancy When ARV Drugs Have Been Used in the Past ^a	Switching to a New ART Regimen During Pregnancy When Current Regimen Is Not Well Tolerated and/or Is Not Fully Suppressive	Starting ART When Trying to Conceive ^b
EVG/c ^f	Not recommended ^f	Continue with frequent viral load monitoring or consider switching. ^f	Not recommended ^f	Not recommended ^f	Not recommended ^f
Protease Inhibitor (PI) Drugs Used in combination with a dual-NRTI backbone ^c					
ATV/r ⁹	Alternative ⁹	Continue	Alternative ⁹	Alternative ⁹	Alternative ⁹
DRV/r ^{a,9}	Alternative ^{a,9}	Continue	Alternative ^{a,9}	Alternative ⁹	Alternative ^{a,9}
LPV/r ⁹	Not recommended, except in special circumstances ⁹	Continue	Not recommended, except in special circumstances ⁹	Not recommended, except in special circumstances ⁹	Not recommended except in special circumstances ⁹
ATV/c ^f	Not recommended ^f	Continue with frequent viral load monitoring or consider switching. ^f	Not recommended ^f	Not recommended ^f	Not recommended ^f
DRV/c ^f	Not recommended ^f	Continue with frequent viral load monitoring or consider switching. ^f	Not recommended ^f	Not recommended ^f	Not recommended ^f

Table 7. Situation-Specific Recommendations for Use of Antiretroviral Drugs During Pregnancy and When Trying to Conceive

ART Regimen Component	Initiating ART in Pregnancy When ARV Drugs Have Never Previously Been Used	Continuing ART When Pregnancy Occurs on a Fully Suppressive, Well-Tolerated Regimen	Starting or restarting ART During Pregnancy When ARV Drugs Have Been Used in the Past ^a	Switching to a New ART Regimen During Pregnancy When Current Regimen Is Not Well Tolerated and/or Is Not Fully Suppressive	Starting ART When Trying to Conceive ^b
Non-nucleoside Reverse Transcriptase Inhibitor (NNRTI) Drugs Used in combination with a dual-NRTI backbone ^{c,d}					
EFV	Alternative	Continue	Alternative	Alternative	Alternative
RPV ^h Oral	Alternative ^h	Continue ^h	Alternative ^h	Alternative ^h	Alternative ^h
RPV Long-acting (IM) ^d	Not recommended	Continue with frequent viral load monitoring or consider switching due to insufficient data. ^d	Insufficient data	Insufficient data	Insufficient data
DOR ⁱ	Insufficient data ⁱ	Continue with frequent viral load monitoring or consider switching due to insufficient data. ⁱ	Insufficient data ⁱ	Insufficient data ⁱ	Insufficient data ⁱ
ETR ^j	Not recommended ^j	Continue ^j	Not recommended, except in special circumstances ^j	Not recommended, except in special circumstances ^j	Not recommended, except in special circumstances ^j
NVP ⁱ	Not recommended ⁱ	Continue ⁱ	Not recommended ⁱ	Not recommended ⁱ	Not recommended ⁱ
NRTI Drugs^{c,k}					
FTC	Preferred	Continue	Preferred	Preferred	Preferred
3TC	Preferred	Continue	Preferred	Preferred	Preferred
TDF ^c	Preferred ^c	Continue	Preferred	Preferred	Preferred

Table 7. Situation-Specific Recommendations for Use of Antiretroviral Drugs During Pregnancy and When Trying to Conceive

ART Regimen Component	Initiating ART in Pregnancy When ARV Drugs Have Never Previously Been Used	Continuing ART When Pregnancy Occurs on a Fully Suppressive, Well-Tolerated Regimen	Starting or restarting ART During Pregnancy When ARV Drugs Have Been Used in the Past ^a	Switching to a New ART Regimen During Pregnancy When Current Regimen Is Not Well Tolerated and/or Is Not Fully Suppressive	Starting ART When Trying to Conceive ^b
TAF ^c	Preferred ^c	Continue	Preferred	Preferred	Preferred
ABC ^{c,k}	Alternative ^{c,k}	Continue	Alternative ^{c,k}	Alternative ^{c,k}	Alternative ^{c,k}
ZDV	Alternative	Continue	Alternative	Alternative	Alternative
Entry, Attachment, Fusion, and Capsid Inhibitor Drugs					
FTR ^j	Not recommended	Continue ^j	Not recommended, except in special circumstances ^j	Not recommended, except in special circumstances	Not recommended, except in special circumstances
IBAI ^j	Not recommended	Continue ^j	Not recommended, except in special circumstances	Not recommended, except in special circumstances	Not recommended, except in special circumstances
LEN ^j	Not recommended	Continue ^j	Not recommended, except in special circumstances	Not recommended, except in special circumstances	Not recommended, except in special circumstances
MVC ^j	Not recommended	Continue ^j	Not recommended, except in special circumstances	Not recommended, except in special circumstances	Not recommended, except in special circumstances
T-20 ^j	Not recommended	Continue ^j	Not recommended, except in special circumstances	Not recommended, except in special circumstances	Not recommended, except in special circumstances
Fixed-Dose Combination (FDC) and Coadministered Regimens^{e,l} The individual drug component that is most responsible for the overall recommendation is indicated in parentheses.					
BIC/FTC/TAF ^e	Preferred ^e	Continue	Preferred ^e	Preferred ^e	Preferred ^e

Table 7. Situation-Specific Recommendations for Use of Antiretroviral Drugs During Pregnancy and When Trying to Conceive

ART Regimen Component	Initiating ART in Pregnancy When ARV Drugs Have Never Previously Been Used	Continuing ART When Pregnancy Occurs on a Fully Suppressive, Well-Tolerated Regimen	Starting or restarting ART During Pregnancy When ARV Drugs Have Been Used in the Past ^a	Switching to a New ART Regimen During Pregnancy When Current Regimen Is Not Well Tolerated and/or Is Not Fully Suppressive	Starting ART When Trying to Conceive ^b
DTG/ABC/3TC ^{a,c,k}	Alternative (ABC) ^{a,c,k}	Continue	Alternative (ABC) ^{a,c,k}	Alternative (ABC) ^{a,c,k}	Alternative (ABC) ^{a,c,k}
EFV/FTC/TDF	Alternative (EFV)	Continue	Alternative (EFV)	Alternative (EFV)	Alternative (EFV)
EFV/3TC/TDF	Alternative (EFV)	Continue	Alternative (EFV)	Alternative (EFV)	Alternative (EFV)
RPV/TDF/FTC ^h	Alternative (RPV) ^h	Continue (RPV) ^h	Alternative (RPV) ^h	Alternative (RPV) ^h	Alternative (RPV) ^h
RPV/TAF/FTC ^h	Alternative ^h	Continue	Alternative ^h	Alternative ^h	Alternative ^h
DOR/3TC/TDF ⁱ	Insufficient data (DOR) ⁱ	Continue with frequent viral load monitoring or consider switching due to insufficient data (DOR).	Insufficient data (DOR) ⁱ	Insufficient data (DOR) ⁱ	Insufficient data (DOR) ⁱ
IM CAB and RPV ^d As a complete regimen	Not recommended ^d	Continue with frequent viral load monitoring or consider switching due to insufficient data. ^d	Insufficient data ^d	Insufficient data ^d	Insufficient data ^d
DRV/c/FTC/TAF ^f	Not recommended (DRV/c) ^f	Continue with frequent viral load monitoring or consider switching (DRV/c). ^f	Not recommended (DRV/c) ^f	Not recommended (DRV/c) ^f	Not recommended (DRV/c) ^f
EVG/c/FTC/TDF ^f	Not recommended (EVG/c) ^f	Continue with frequent viral load monitoring or consider switching (EVG/c). ^f	Not recommended (EVG/c) ^f	Not recommended (EVG/c) ^f	Not recommended (EVG/c) ^f
EVG/c/FTC/TAF ^f	Not recommended (EVG/c) ^f	Continue with frequent viral load monitoring or consider switching (EVG/c). ^f	Not recommended (EVG/c) ^f	Not recommended (EVG/c) ^f	Not recommended (EVG/c) ^f

Table 7. Situation-Specific Recommendations for Use of Antiretroviral Drugs During Pregnancy and When Trying to Conceive

ART Regimen Component	Initiating ART in Pregnancy When ARV Drugs Have Never Previously Been Used	Continuing ART When Pregnancy Occurs on a Fully Suppressive, Well-Tolerated Regimen	Starting or restarting ART During Pregnancy When ARV Drugs Have Been Used in the Past ^a	Switching to a New ART Regimen During Pregnancy When Current Regimen Is Not Well Tolerated and/or Is Not Fully Suppressive	Starting ART When Trying to Conceive ^b
DTG/3TC As a complete regimen ^m	Not recommended ^m	Continue with frequent viral load monitoring. ^m	Not recommended ^m	Not recommended ^m	Not recommended ^m
DTG/RPV As a complete regimen ^m	Not recommended ^m	Continue with frequent viral load monitoring. ^m	Not recommended ^m	Not recommended ^m	Not recommended ^m

^a Do not initiate ARV regimens with components that have documented resistance or suspected resistance based on prior ARV exposure. DTG and BIC are not recommended for initial treatment if CAB has been taken in the past for PrEP, due to concerns about INSTI resistance mutations in the absence of INSTI genotype information; DRV/r is Preferred in this situation.

^b This guidance is intended only when actively trying to conceive in the context of starting ART for the first time or currently receiving ART. For ART recommendations where the possibility exists for unintended pregnancy, please see [Adult and Adolescent Antiretroviral Guidelines](#).

^c TDF plus FTC, TAF plus FTC, and TDF plus 3TC are Preferred dual-NRTI backbones; ZDV plus 3TC and ABC plus 3TC are Alternative dual-NRTI backbones for ARV regimens due to more frequent dosing and mild adverse events (ZDV) and the need for HLA-B*5701 testing and concerns over cardiac safety (ABC).

^d Long-acting injectable formulations of CAB and RPV are available only as a co-packaged product. Coadministration of CAB plus RPV is a complete two-drug ART regimen for nonpregnant adults with HIV RNA levels <50 copies/mL for at least 3 months, on a stable ARV regimen, with no history of treatment failure, and with no known or suspected resistance to CAB or RPV. Oral lead-in dosing with CAB and RPV for at least 28 days may be used to assess tolerability before starting monthly long-acting IM injections. CAB plus RPV (oral or injectable) should not be administered with NRTIs or other ARV drugs. Oral and injectable CAB and injectable RPV are not recommended for initiation in pregnancy due to lack of dosing, PK, and safety data for injectable RPV and for injectable or oral CAB. However, if conception occurs while suppressed on injectable CAB/RPV may have few other treatment options, and the Panel recommends a shared decision-making process to decide whether to continue this regimen with viral load monitoring every 1 to 2 months or to switch to a recommended oral regimen. If a switch is made, the timing of the switch must take into account the long half-life of the long-acting injectable formulations with persistence of the drug for up to 12 months. With the current dosing schedule of injections monthly or every 2 months, change to an oral regimen should occur within 1 month (+/- 7 days) after the last CAB IM injection or 2 months after the last RPV IM injection. Dosing recommendations, including guidance for switching to an oral regimen, can be found in the prescribing information. (See [Cabotegravir](#) in the Perinatal Guidelines and [Optimizing Antiretroviral Therapy in the Setting of Viral Suppression](#) in the [Adult and Adolescent Antiretroviral Guidelines](#).)

^e Available data for BIC during pregnancy suggest sufficient PK, efficacy, and safety of this medication to support its use as a Preferred agent in those who are pregnant or trying to conceive. No safety concerns have been observed. Drug levels are lower in the second and third trimester of pregnancy than in nonpregnant or postpartum patients and are

Table 7. Situation-Specific Recommendations for Use of Antiretroviral Drugs During Pregnancy and When Trying to Conceive

reduced in later pregnancy to a greater degree for BIC than for DTG. BIC levels remained above the **protein-adjusted** 95% effective concentration during pregnancy and thus are anticipated to suppress viral load.

^f DRV/c, EVG/c, and ATV/c are **not recommended** for use in pregnancy because of PK changes that pose a risk for low drug levels and viral rebound in the second and third trimesters. However, in cases where virologically suppression on regimens that include these drugs is present at the time of presentation to prenatal HIV care, these drug combinations can be continued with frequent (every 1–2 months) viral load monitoring or can be switched to a *Recommended* or *Alternative* agent. If concerns about switching exist, see [Antiretroviral Therapy Use During Prepregnancy and Early Pregnancy](#). If the cobicistat pharmacologic booster is replaced with RTV for ATV and DRV, attention to dosing in pregnancy is critical; in the second and third trimesters, higher doses of ATV are required if coadministered with TDF or antacids, and twice-daily dosing is required for DRV.

^g DRV/r, rather than ATV/r, is recommended as an option for initial ART in nonpregnant adults. However, DRV/r requires twice-daily dosing in pregnancy, and dosing frequency affects ARV adherence. For these reasons, when use of a PI-based regimen is indicated during pregnancy, some Panel members would use ATV/r rather than DRV/r for initial ART. LPV/r is **not recommended** for use in pregnancy but may be needed in special circumstances because it is safe for use in pregnancy and provides an option if a liquid formulation is needed (e.g., G-tube administration). However, because LPV/r solution contains approximately 42% (v/v) ethanol and 15% (w/v) propylene glycol, it should be used with caution in pregnancy.

^h Although PK data indicate that RPV plasma concentration is reduced during the second and third trimesters, the reduction is less than that seen with use of EVG/c or DRV/c. Higher-than-standard doses of RPV have not been studied, so data are insufficient to recommend a dose change in pregnancy. With standard dosing, viral load should be monitored more frequently (every 1–2 months).

ⁱ Data on the safety, PK, and dosing of DOR in pregnancy are limited. Viral load should be monitored more frequently (every 1–2 months). Because fewer than 200 first-trimester and periconception exposures have been reported in the Antiretroviral Pregnancy Registry, it is not yet possible to exclude a risk of birth defects greater than that in the general population. Please report all exposures to the [Antiretroviral Pregnancy Registry](#).

^j Although these drugs are not recommended for initial treatment in pregnancy when ARV drugs have never previously been used, in special circumstances of substantial prior ART experience, it may be necessary to continue or initiate ETR, FTR, IBA, LEN, NVP, MVC, and T-20 to maintain or achieve viral suppression. Safety and efficacy data about the use of ETR, FTR, IBA, LEN, MVC, and T20 in pregnancy are limited. For highly treatment-experienced patients, consider switching to a regimen approved for use in pregnancy, or for patients without therapeutic alternatives, continue with frequent (every 1–2 months) viral load monitoring and counsel patients that safety data are not available during pregnancy. NVP is **not recommended** for ART-naïve people because it has a greater potential for adverse events than other NNRTIs, complex lead-in dosing, and a low barrier to resistance; however, if a NVP-containing regimen is well tolerated and associated with effective viral suppression when pregnancy occurs, it is likely that NVP will be safe and effective during pregnancy. See [Table 6. What to Start: Initial Antiretroviral Regimens During Pregnancy When Antiretroviral Therapy Has Never Been Received](#) and [Nevirapine](#) for more information.

^k Testing for HLA-B*5701 identifies patients who are at risk of developing hypersensitivity reactions while taking ABC; testing should be performed and a patient should be documented as negative before initiating ABC.

^l When using FDC tablets, refer to [Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy](#) and the drug sections in [Appendix B: Safety and Toxicity of Individual Antiretroviral Agents in Pregnancy](#) for information about the dosing and safety of individual components of the FDC tablet during pregnancy.

^m Two-drug oral ARV regimens are **not recommended** for initial use in pregnancy because of the lack of available data about use in pregnancy. However, if an oral two drug regimen with DTG/3TC or DTG/RPV is well tolerated and associated with effective viral suppression when pregnancy occurs, this regimen can be continued with more frequent viral load monitoring (every 1–2 months) throughout pregnancy because the component drugs are recommended for use in pregnancy.

Table 7. Situation-Specific Recommendations for Use of Antiretroviral Drugs During Pregnancy and When Trying to Conceive

Note: The following drugs and drug combinations, which are not listed above, should not be used during pregnancy: d4T, ddl, FPV, FPV/r, IDV, IDV/r, NFV, RTV (as the sole PI), SQV, SQV/r, TPV, TPV/r, or a three-NRTI ARV regimen (e.g., ABC/ZDV/3TC). If pregnancy occurs while taking any of these medications, medications should be switched to a recommended regimen. See [Archived Drugs](#) in the Perinatal Guidelines for individual ARV drugs, ARV combinations, and ARV regimens that are not recommended or should not be used in adults. Refer to the table above and [Table 6. What to Start: Initial Antiretroviral Regimens During Pregnancy When Antiretroviral Therapy Has Never Been Received](#) for ARV regimens that are recommended for use in pregnancy.

Key: 3TC = lamivudine; ABC = abacavir; ART = antiretroviral therapy; ARV = antiretroviral; ATV = atazanavir; ATV/c = atazanavir/cobicistat; ATV/r = atazanavir/ritonavir; BIC = bictegravir; CAB = cabotegravir; d4T = stavudine; ddl = didanosine; DOR = doravirine; DRV = darunavir; DRV/c = darunavir/cobicistat; DRV/r = darunavir/ritonavir; DTG = dolutegravir; EFV = efavirenz; ETR = etravirine; EVG/c = elvitegravir/cobicistat; FDC = fixed-dose combination; FPV = fosamprenavir; FPV/r = fosamprenavir/ritonavir; FTC = emtricitabine; FTR = fostemsavir; IBA = ibalizumab; IDV = indinavir; IDV/r = indinavir/ritonavir; IM = intramuscular; IM CAB and RPV = long-acting intramuscular formulations of cabotegravir and rilpivirine; INSTI = integrase strand transfer inhibitor; LEN = lenacapavir; LPV/r = lopinavir/ritonavir; MVC = maraviroc; NFV = nelfinavir; NNRTI = non-nucleoside reverse transcriptase inhibitor; NRTI = nucleoside reverse transcriptase inhibitor; NVP = nevirapine; the Panel = Panel on Treatment of HIV During Pregnancy and Prevention of Perinatal Transmission; PI = protease inhibitor; PK = pharmacokinetic; PrEP = pre-exposure prophylaxis; RAL = raltegravir; RPV = rilpivirine; RTV = ritonavir; SQV = saquinavir; SQV/r = saquinavir/ritonavir; T-20 = enfuvirtide; TAF = tenofovir alafenamide; TDF = tenofovir disoproxil fumarate; TPV = tipranavir; TPV/r = tipranavir/ritonavir; ZDV = zidovudine

Table 8. Drug-Specific Risk Assessment by the Antiretroviral Pregnancy Registry

ARV Drug	Level of Risk Assessment	Risk Assessment Outcome
BIC, COBI, DRV, d4T, ddl, DTG, EVG, IDV, RAL, RPV, and TAF	Sufficient numbers of first-trimester exposures have been monitored to detect at least a 2-fold increase in the risk of overall birth defects.	No such increases detected.
3TC, ABC, ATV, EFV, FTC, LPV/r, NFV, NVP, RTV, TDF, and ZDV	Sufficient numbers of first-trimester exposures have been monitored to detect at least a 1.5-fold increase in the risk of overall birth defects and a twofold increase in the risk of birth defects in cardiovascular and genitourinary systems.	No such increases detected.
CAB, DOR, ETR, FTR, LEN, and T-20	Insufficient numbers of exposures reported to assess the level of risk.	Not available.

Key: 3TC = lamivudine; ABC = abacavir; ARV = antiretroviral; ATV = atazanavir; BIC = bictegravir; CAB = cabotegravir; COBI = cobicistat; d4T = stavudine; ddl = didanosine; DOR = doravirine; DRV = darunavir; DTG = dolutegravir; EFV = efavirenz; ETR = etravirine; EVG = elvitegravir; FTC = emtricitabine; FTR = fostemsavir; IDV = indinavir; LEN = lenacapavir; LPV/r = lopinavir/ritonavir; NFV = nelfinavir; NVP = nevirapine; RAL = raltegravir; RPV = rilpivirine; RTV = ritonavir; T-20 = enfuvirtide; TAF = tenofovir alafenamide; TDF = tenofovir disoproxil fumarate; ZDV = zidovudine

Table 9. Intrapartum Care and Recommended Interventions to Prevent Perinatal HIV Transmission Based on HIV RNA Levels at the Time of Delivery

Antiretroviral therapy (ART) should always be taken or initiated in pregnancy as early as possible to suppress HIV RNA to undetectable levels (<50 copies/mL).

HIV RNA at Time of Delivery Assessed at 36 Weeks Gestation or Within 4 Weeks Prior to Birth				
	<50 copies/mL and on ART With No Concerns About Adherence ^a	≥50 to ≤1,000 copies/mL	>1,000 copies/mL	Unknown HIV RNA ART Adherence Concerns ^a Not Receiving ART HIV Diagnosis in Labor
Intrapartum ART	Prescribed ART should be taken on schedule during labor and before scheduled cesarean birth (CIII). In general, ARV regimens are initiated postpartum when HIV is diagnosed during labor.			
Intrapartum IV ZDV	Not required (BII)	Not required but may be considered (CII); some experts recommend.	Yes, recommended (AI) ^b IV ZDV: 1-hour loading dose at 2 mg/kg followed by a continuous ZDV infusion of 1 mg/kg for 2 hours (at least 3 hours total) (AII)	
Mode of Delivery	Vaginal birth ^c (AII)	Vaginal birth ^c (AII)	Scheduled cesarean birth at 38 weeks gestation ^d (AII)	Individualized care ^d
Artificial Rupture of Membranes^e	Per standard obstetric indications (BII)	Avoid if possible (BIII).	Not applicable; cesarean birth recommended	Avoid, if possible, when viral load is detectable or unknown and a cesarean birth is not being performed (BIII).
Induction of Labor	Per standard obstetric indications, including use of oxytocin. When HIV RNA levels are ≤1,000 copies/mL, routine induction at 38 weeks gestation should NOT be performed.		Not applicable; scheduled cesarean birth at 38 weeks is recommended.	Avoid if possible (BIII).
IUPC	Data not available for pregnancies impacted with HIV; use IUPC with caution and only if clear obstetric indications exist.			
Fetal Scalp Electrodes for Fetal Monitoring	Avoid—particularly when maternal viral load is not suppressed (≥50 copies/mL) or is unknown—because of the potential risk of HIV transmission (BIII). See Antiretroviral Management of Infants With In Utero, Intrapartum, or Breastfeeding Exposure to HIV .			
Operative Delivery With Forceps or a Vacuum Extractor	Per standard obstetric indications (BIII)	Avoid during pregnancy in the setting of viremia if possible (BIII).		
Delayed Cord Clamping	Per standard obstetric indications and care			

Table 9. Intrapartum Care and Recommended Interventions to Prevent Perinatal HIV Transmission Based on HIV RNA Levels at the Time of Delivery

HIV RNA at Time of Delivery Assessed at 36 Weeks Gestation or Within 4 Weeks Prior to Birth				
	<50 copies/mL and on ART With No Concerns About Adherence ^a	≥50 to ≤1,000 copies/mL	>1,000 copies/mL	Unknown HIV RNA ART Adherence Concerns ^a Not Receiving ART HIV Diagnosis in Labor
Use of Methergine for Postpartum Hemorrhage	Due to potential drug interactions with some ARV drugs, consider a patient's ARV regimen when treating postpartum bleeding caused by uterine atony (BIII). ^f			
Infant ARV Drugs and Infant Feeding	See Antiretroviral Management of Infants With <i>In Utero</i>, Intrapartum, or Breastfeeding Exposure to HIV , Table 11 , Table 11.1 , Postpartum HIV Management and Follow-Up , and Preventing HIV Transmission During Infant Feeding .			

Key: ART = antiretroviral therapy; ARV = antiretroviral; IUPC = intrauterine pressure catheter; IV = intravenous; ZDV = zidovudine

^a Assess ART adherence at every visit and upon presentation for birth.

^b Begin IV ZDV when patients present in labor or at least 3 hours before a cesarean birth using a 1-hour loading dose of ZDV at 2 mg/kg followed by a continuous ZDV infusion of 1 mg/kg for at least 2 hours (AII).

^c Scheduled cesarean birth performed solely for prevention of perinatal HIV transmission when ART is being taken and HIV RNA levels are ≤1,000 copies/mL is **not recommended** given the low rate of perinatal transmission in this group (AII). When HIV RNA levels are ≤1,000 copies/mL, if scheduled cesarean birth or induction is indicated, it should be performed at the standard time for obstetric indications (AII).

^d Provide individualized care. If HIV RNA is >1,000 copies/mL or unknown, evidence is insufficient to determine whether cesarean birth reduces the risk of perinatal HIV transmission when spontaneous labor or rupture of membranes have occurred. When cesarean birth was originally scheduled because of HIV and labor is ongoing, management must be individualized at the time of presentation (BII). In these circumstances, consultation with an expert in perinatal HIV (e.g., telephone consultation with the [National Perinatal HIV/AIDS Clinical Consultation Center](#) [1-888-448-8765]) may be helpful in rapidly developing an individualized plan.

^e In pregnancies when ART is being taken and suppressed viral load (HIV RNA <50 copies/mL) is achieved, duration of ruptured membranes is not associated with an increased risk of perinatal transmission and is not an indication for cesarean birth to prevent HIV transmission (BII).

^f Consider drug interactions with ART when treating postpartum bleeding caused by uterine atony. When a cytochrome P450 3A4 (CYP3A4) enzyme inhibitor (e.g., a protease inhibitor, cobicistat) is being taken, methergine should be used only if no alternative treatments for postpartum hemorrhage are available and the need for pharmacologic treatment outweighs the risks. If methergine is used, it should be administered at the lowest effective dose for the shortest possible duration (BIII). When a CYP3A4 enzyme inducer—such as nevirapine, efavirenz, or etravirine—is being taken, additional uterotonic agents may be needed because of the potential for decreased methergine levels and inadequate treatment effect (BIII).

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

Table 10. Transmission Risk Assessment by HIV RNA Levels and Antenatal Time Period

Antenatal Time Period			Transmission Risk	
HIV RNA at <20 Weeks' Gestation	HIV RNA ≥20 Weeks' Gestation to 4 Weeks Prior to Delivery	HIV RNA at ≤4 Weeks Prior to Delivery	In Utero	Intrapartum
N/A ^a	N/A ^a	≥50 copies/mL ^b	High	High
N/A ^a	≥50 copies/mL ^b	<50 copies/mL	Low to moderate	Low
≥50 copies/mL ^b	<50 copies/mL	<50 copies/mL	Low	Low
<50 copies/mL	<50 copies/mL	<50 copies/mL	Low	Low

^a HIV RNA levels in this time period do not change the transmission risk categorization because transmission risk is determined by viremia later in gestation.

^b HIV RNA values of ≥50 copies/mL can be documented or presumed (e.g., early [acute or recent] HIV, new diagnosis of HIV, or known lapse in adherence).

Table 11. Antiretroviral Management for Infants With *In Utero* or Intrapartum Exposure to HIV

Clinical Setting	Risk of Acquisition		Neonatal ARV Management ^{a,b}	Rationale
	<i>In Utero</i>	Intrapartum		
High Risk of Acquisition				
<p>HIV RNA ≥ 50 copies/mL in the 4 weeks prior to delivery</p> <p>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).</p>	High	High	<p>Presumptive HIV therapy using a three-drug regimen of ZDV and 3TC plus either NVP (treatment dose) or RAL</p> <p>Duration is from birth for 2–6 weeks; consensus not reached by members of the Panel.^c</p> <p>If the duration of a three-drug regimen is <6 weeks, and the birth NAT is negative, ZDV should be continued alone to complete a total of 6 weeks of prophylaxis.</p> <p>HIV NAT obtained before or immediately after starting presumptive therapy with three drugs^{d,e}</p>	<p>Viremia in the 4 weeks immediately prior to delivery confers very high risk for <i>in utero</i> and intrapartum transmission.</p> <p>Plasma HIV RNA levels of 50–200 copies/mL could be expected to confer lower risk than those >200 copies/mL but could also be an indicator of poor adherence and raise concern for higher levels of viremia at other times.</p>
Low Risk of Acquisition				
<p>HIV RNA <50 copies/mL from 20 weeks' gestation through delivery</p> <p>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.</p>	Low	Low	ZDV for 2 weeks	<p>Sustained virologic suppression from 20 weeks' gestation is associated with extremely low risk of transmission <i>in utero</i> or intrapartum.</p> <p>Although <i>in utero</i> transmission events have been documented prior to 20 weeks, the extremely low frequency of these events does not merit the presumptive HIV therapy approach.</p>
Other Clinical Scenarios				
<p>HIV RNA ≥ 50 copies/mL at >20 weeks' gestation, but HIV RNA <50 copies/mL in the 4 weeks prior to delivery</p>	Low to Moderate	Low	<p>HIV NAT at Birth^{d,e}</p> <p>Two Options for ARV Management</p> <p>1. Presumptive HIV therapy with a three-drug regimen,</p>	<p>Viremia in the late second and third trimester elevates risk of <i>in utero</i> transmission (increasing risk with higher HIV RNA levels and longer duration</p>

Table 11. Antiretroviral Management for Infants With *In Utero* or Intrapartum Exposure to HIV

Clinical Setting	Risk of Acquisition		Neonatal ARV Management ^{a,b}	Rationale
	<i>In Utero</i>	Intrapartum		
			<p>as described above for infants at high risk. If birth the HIV NAT is negative, de-escalate the prophylaxis regimen to ZDV alone to complete 2–6 weeks total.^c</p> <p>2. ZDV prophylaxis for 2–6 weeks</p>	<p>of viremia).</p> <p><i>Option 1.</i> Some Panel members believe that the potential benefit of early treatment for an infant who acquired the infection <i>in utero</i> merits a presumptive HIV therapy approach.</p> <p><i>Option 2.</i> Other Panel members believe that the marginal potential benefit and anticipated low frequency of <i>in utero</i> infection do not merit the additional complexity of and potential toxicity of presumptive HIV therapy and favor ZDV prophylaxis only.</p> <p>All infants should receive a minimum of 2 weeks ZDV prophylaxis, but up to 6 weeks may be used when indicated based on risk assessment.</p>
Early (acute or recent) HIV at any point during pregnancy	Moderate to High depending on maternal HIV RNA levels and weeks' gestation	High if HIV RNA ≥ 50 copies/mL in the last 4 weeks of pregnancy	<p>HIV NAT at birth^{d,e}</p> <p>Manage infant ARVs according to the level and timing of the maternal viremia as described in the rows above (just as for an infant exposed to established infection).</p>	<p>Early or recent HIV diagnosed at any time during pregnancy is a unique situation because very high HIV RNA levels place infants at high risk of HIV acquisition.</p> <p>For infants perinatally exposed to known HIV infection, risk of transmission increases when viremia occurs later in pregnancy. Some Panel members would manage all cases with presumptive therapy, whereas others would only use it for viremia after 20 weeks' gestation.</p>

Table 11. Antiretroviral Management for Infants With *In Utero* or Intrapartum Exposure to HIV

Clinical Setting	Risk of Acquisition		Neonatal ARV Management ^{a,b}	Rationale
	<i>In Utero</i>	Intrapartum		
Unconfirmed maternal HIV status with 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 ^{d,e} Presumptive HIV therapy with a three-drug regimen as described above for newborns with a high risk of <i>in utero</i> or intrapartum HIV acquisition If supplemental testing confirms a negative maternal HIV status, discontinue infant ARV drugs immediately.	Supplemental maternal HIV testing and/or NAT testing of the infant is required to determine the level of risk and need to continue infant presumptive HIV therapy or initiate ART. ^e

^a Infant ARVs should be initiated in the first 6 hours after delivery, especially for infants with a high risk of acquisition. See Table 11.1 for ARV dosing.

^b See [HIV-2 Infection and Pregnancy](#) for ARV prophylaxis recommendations for infants perinatally exposed to HIV-2 mono-infection. In the event of maternal 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, RAL 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 RAL), may be administered for 2 to 6 weeks; the recommended duration for treatment with three ARVs varies depending on infant HIV NAT results, maternal 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 NAT test at birth should be obtained before or immediately after starting ARVs. See [Diagnosis of HIV Infection in Infants and Children](#) for additional information about HIV testing and NATs.

^e 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 (see [When to Initiate Antiretroviral Treatment in Children with HIV Infection and What to Start in the Pediatric Antiretroviral Guidelines](#)). However, the specimen for confirmatory HIV testing should be obtained prior to ART initiation.

Note: Providers with questions about ARV management of infants should consult an expert in pediatric HIV infection or the [National Perinatal HIV Hotline \(1-888-448-8765\)](#).

Key: 3TC = lamivudine; ART = antiretroviral therapy; ARV = antiretroviral; NAT = nucleic acid test; NVP = nevirapine; the Panels = the Panel on Treatment of HIV During Pregnancy and Prevention of Perinatal Transmission and the Panel on Antiretroviral Therapy and Medical Management of Children Living With HIV; RAL = raltegravir; ZDV = zidovudine

Table 11.1. Drug Dosing Recommendations for Antiretroviral Prophylaxis and Presumptive HIV Therapy in Infants With *In Utero* or Intrapartum Exposure to HIV^a

This table provides dosing for antiretroviral (ARV) prophylaxis and presumptive HIV therapy in infants with *in utero* or intrapartum exposure to HIV. Dosing for additional ARV prophylaxis during breastfeeding is provided in [Table 12.1. Antiretroviral Prophylaxis Dosing for Infants Who Are Breastfed.](#)

For infants with HIV infection, recommendations for initial ARV therapy regimens and ARV dosing are available in the [Pediatric Antiretroviral Guidelines](#); see [What to Start](#) and [Appendix A. Pediatric Antiretroviral Drug Information.](#)

ARV Drug	Drug Doses by Gestational Age at Birth								
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.	≥35 Weeks of Gestation at Birth <i>Birth to Age ≤6 Weeks</i> <ul style="list-style-type: none"> • 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 border="1" data-bbox="565 936 1414 1150"> <thead> <tr> <th>Weight Band</th> <th>Volume of ZDV 10 mg/mL Oral Syrup Twice Daily</th> </tr> </thead> <tbody> <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> </tbody> </table>	Weight Band	Volume of ZDV 10 mg/mL Oral Syrup Twice Daily	2 kg to <3 kg	1 mL	3 kg to <4 kg	1.5 mL	4 kg to <5 kg	2 mL
	Weight Band	Volume of ZDV 10 mg/mL Oral Syrup Twice Daily							
	2 kg to <3 kg	1 mL							
	3 kg to <4 kg	1.5 mL							
4 kg to <5 kg	2 mL								
≥30 Weeks to <35 Weeks of Gestation at Birth <i>Birth to Age 2 Weeks</i> <ul style="list-style-type: none"> • ZDV 2 mg/kg per dose orally twice daily <i>Age 2 Weeks to ≤6 Weeks</i> <ul style="list-style-type: none"> • ZDV 3 mg/kg per dose orally twice daily 									
<30 Weeks of Gestation at Birth <i>Birth to Age 4 Weeks</i> <ul style="list-style-type: none"> • ZDV 2 mg/kg per dose orally twice daily <i>Age 4 Weeks to ≤6 Weeks</i> <ul style="list-style-type: none"> • ZDV 3 mg/kg per dose orally twice daily 									
3TC	≥32 Weeks of Gestation at Birth <i>Birth to Age <4 Weeks</i> <ul style="list-style-type: none"> • 3TC 2 mg/kg per dose orally twice daily 								

Table 11.1. Drug Dosing Recommendations for Antiretroviral Prophylaxis and Presumptive HIV Therapy in Infants With *In Utero* or Intrapartum Exposure to HIV

ARV Drug	Drug Doses by Gestational Age at Birth																
	<p>Age ≥ 4 Weeks to ≤ 6 weeks</p> <ul style="list-style-type: none"> • 3TC 4 mg/kg per dose orally twice daily 																
<p>NVP^b</p> <p>Note: These are NVP treatment doses for a presumptive HIV therapy regimen. NVP dosing for extended ARV prophylaxis during breastfeeding is provided in Table 12.1.</p> <p>Note: Do not use NVP if HIV-2 infection (or HIV-2 co-infection with HIV-1) is present or suspected; see HIV-2- Infection and Pregnancy.</p>	<p>≥ 37 Weeks of Gestation at Birth</p> <p>Birth to Age ≤ 6 Weeks</p> <ul style="list-style-type: none"> • NVP 6 mg/kg per dose orally twice daily 																
	<p>≥ 34 Weeks to < 37 Weeks of Gestation at Birth</p> <p>Birth to Age ≤ 1 Week</p> <ul style="list-style-type: none"> • NVP 4 mg/kg per dose orally twice daily <p>Age ≥ 1 Week to ≤ 6 Weeks</p> <ul style="list-style-type: none"> • NVP 6 mg/kg per dose orally twice daily 																
	<p>≥ 32 Weeks to < 34 Weeks of Gestation at Birth</p> <p>Birth to Age ≤ 2 Weeks</p> <ul style="list-style-type: none"> • NVP 2 mg/kg per dose orally twice daily <p>Age ≥ 2 Weeks to ≤ 4 Weeks</p> <ul style="list-style-type: none"> • NVP 4 mg/kg per dose orally twice daily <p>Age ≥ 4 Weeks to ≤ 6 Weeks</p> <ul style="list-style-type: none"> • NVP 6 mg/kg per dose orally twice daily 																
<p>RAL</p>	<p>≥ 37 Weeks of Gestation at Birth and Weighing ≥ 2 kg^c</p> <p>Birth to Age 6 Weeks</p> <table border="1"> <thead> <tr> <th>Body Weight</th> <th>Volume (Dose) of RAL 10 mg/mL Suspension</th> </tr> </thead> <tbody> <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> </tbody> </table>	Body Weight	Volume (Dose) of RAL 10 mg/mL Suspension	Birth to 1 Week: Once-Daily Dosing	Approximately 1.5 mg/kg per dose	2 kg to < 3 kg	0.4 mL (4 mg) once daily	3 kg to < 4 kg	0.5 mL (5 mg) once daily	4 kg to < 5 kg	0.7 mL (7 mg) once daily	1 to 4 Weeks: Twice-Daily Dosing	Approximately 3 mg/kg per dose	2 kg to < 3 kg	0.8 mL (8 mg) twice daily	3 kg to < 4 kg	1 mL (10 mg) twice daily
Body Weight	Volume (Dose) of RAL 10 mg/mL Suspension																
Birth to 1 Week: Once-Daily Dosing	Approximately 1.5 mg/kg per dose																
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1 to 4 Weeks: Twice-Daily Dosing	Approximately 3 mg/kg per dose																
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3 kg to < 4 kg	1 mL (10 mg) twice daily																

Table 11.1. Drug Dosing Recommendations for Antiretroviral Prophylaxis and Presumptive HIV Therapy in Infants With *In Utero* or Intrapartum Exposure to HIV

ARV Drug	Drug Doses by Gestational Age at Birth	
	4 kg to <5 kg	1.5 mL (15 mg) twice daily
	4 to 6 Weeks: Twice-Daily Dosing	Approximately 6 mg/kg per dose
	3 kg to <4 kg	2.5 mL (25 mg) twice daily
	4 kg to <6 kg	3 mL (30 mg) twice daily
	6 kg to <8 kg	4 mL (40 mg) twice daily
<p>ABC^d</p> <p>Note: The Panels do not recommend ABC as part of three-drug regimen for newborns with HIV exposure. However, in situations where ZDV is not available or the infant has ZDV-associated toxicity, ABC could be considered an alternative to ZDV.</p>	<p>≥37 Weeks' Gestation at Birth</p> <p><i>Birth to <1 Month</i></p> <ul style="list-style-type: none"> • ABC 2 mg/kg per dose orally twice daily <p><i>Age ≥1 Month to ≤6 Weeks</i></p> <ul style="list-style-type: none"> • ABC 4 mg/kg per dose orally twice daily 	

^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 RAL), may be administered for 2 to 6 weeks; the recommended duration for these ARVs varies depending on infant HIV NAT results, maternal viral load 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 The NVP doses for infants ≥32 to <37 weeks' gestation at birth and infants ≥37 weeks' gestation at birth are not yet approved by the FDA. The FDA also has not approved a dose of NVP for infants aged <1 month. The 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.

^c 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.

^d ABC is approved by the FDA for use in children aged ≥3 months when administered as part of an ARV regimen. ABC also has been reported to be safe in infants and children ≥1 month of age. More recently, an ABC dosing recommendation using PK simulation models has been endorsed by the WHO using weight-band dosing for full-term infants from birth to 1 month of age. See [Abacavir](#) in [Appendix A: Pediatric Antiretroviral Drug Information](#) in the [Pediatric Antiretroviral Guidelines](#) for additional information about the use of ABC between birth and 1 month of age. At this time, the Panels do not recommend ABC as part of a presumptive HIV therapy regimen. However, in situations where ZDV is not available or the infant has ZDV-associated toxicity, ABC could be considered an alternative to ZDV. This substitution should be considered in circumstances where increased risk of ZDV toxicity may exist, such as in infants with anemia or neutropenia. Because of ABC-associated hypersensitivity, negative testing for HLA-B*5701 allele should be confirmed prior to the administration of ABC.

Key: 3TC = lamivudine; ABC = abacavir; ARV = antiretroviral; FDA = U.S. Food and Drug Administration; IV = intravenous; NVP = nevirapine; the Panels = the Panel on Treatment of HIV During Pregnancy and Prevention of Perinatal Transmission and the Panel on Antiretroviral Therapy and Medical Management of Children Living With HIV; PK = pharmacokinetic; RAL = raltegravir; UGT = uridine diphosphate glucotransferase; WHO = World Health Organization; ZDV = zidovudine

Table 12. Antiretroviral Management of Infants With Exposure to HIV During Breastfeeding

Maternal HIV RNA levels should be monitored periodically during breastfeeding because the status of viral suppression can change over time (see [Preventing HIV Transmission During Infant Feeding](#)). Decisions about infant antiretroviral (ARV) management during breastfeeding should be based on clinical assessment and incorporate shared decision-making when indicated.

Providers with questions about ARV management of infants should consult an expert in pediatric HIV infection or the [National Perinatal HIV Hotline](#) (1-888-448-8765).

Level of Transmission Risk During Breastfeeding by Maternal HIV RNA Levels	Description	Infant ARV Management During Breastfeeding ^a
Sustained Viral Suppression (HIV RNA <50 copies/mL)	When sustained maternal virologic suppression during pregnancy (at a minimum during the third trimester has been achieved, documented by at least two HIV RNA measurements below the limits of detection at least 1 month apart) and breastfeeding and there are no concerns about adherence	<p>After completion of 2-week ZDV prophylaxis in infants at low risk of <i>in utero</i> or intrapartum transmission, some Panel members recommend no additional ARV prophylaxis, but others recommend extended prophylaxis with NVP or 3TC during breastfeeding. The Panels did not reach consensus about the use of extended ARV prophylaxis during breastfeeding (see Table 12.1).</p> <p>Most Panel members recommend that, if used, extended ARV prophylaxis should be continued until 6 weeks after last exposure to breast milk. However, it may be reasonable to discontinue prophylaxis earlier when concern for maternal viremia is low.</p>
Current HIV RNA Levels <50 copies/mL But Concerns About Future Risk	When maternal virologic suppression has been achieved during pregnancy but there is concern about future risk (e.g., ART adherence or loss of virologic suppression for other reasons) during breastfeeding	<p>Consider extended ARV prophylaxis with NVP or 3TC (see Table 12.1).</p> <p>Recommended duration is until 6 weeks after last exposure to breast milk. Providers and parents may consider cessation earlier if concerns about future risk for viremia have resolved.</p> <p>Provide added adherence support as indicated.</p>
New Viremia During Breastfeeding (HIV RNA ≥200 copies/mL)	When maternal viremia with HIV RNA ≥200 copies/mL develops or presumed viremia (e.g., nonadherence, interrupted access to ARVs)	Breastfeeding should be stopped temporarily or discontinued and replacement feeding initiated (see Situations to Consider Modifying or Stopping Breastfeeding in Preventing HIV Transmission During Infant Feeding). Most experts recommend permanent

Table 12. Antiretroviral Management of Infants With Exposure to HIV During Breastfeeding

Level of Transmission Risk During Breastfeeding by Maternal HIV RNA Levels	Description	Infant ARV Management During Breastfeeding ^a
		<p>discontinuation of breastfeeding if HIV RNA ≥ 200 copies/mL, but some support resuming breastfeeding once re-suppressed.</p> <p>Perform infant HIV NAT.^a</p> <p>Initiate presumptive HIV therapy using three-drug regimen of ZDV, 3TC, and DTG.^b For infants aged <4 weeks, ZDV and 3TC plus NVP (treatment dose) or RAL should be used. See Table 12.1 for dosing information.</p> <p>Duration of 2–6 weeks; consensus was not reached by Panel members.</p> <p>If the duration of the three-drug regimen is <6 weeks, and the NAT is negative, continue ZDV alone to complete a total of 6 weeks of prophylaxis.</p>
<p>New Viremia During Breastfeeding (HIV RNA <200 copies/mL)</p>	<p>The Panels did not reach consensus about neonatal management when maternal viremia develops that is quantifiable but <200 copies/mL.</p>	<p>Breastfeeding should be stopped temporarily or discontinued and replacement feeding initiated (see Situations to Consider Modifying or Stopping Breastfeeding in Preventing HIV Transmission During Infant Feeding).</p> <p>Perform infant HIV NAT.^a</p> <p>Some Panel members recommend initiation of presumptive ARV therapy (as described for new viremia ≥ 200 copies/mL, above); other Panel members recommend initiation of single-drug ARV prophylaxis (see Table 12.1).</p> <p>Some Panel members recommend management based on repeat HIV RNA testing.</p> <p>Consultation with an expert is suggested.</p>
<p>New Diagnosis of HIV When Breastfeeding</p>	<p>Newly diagnosed maternal HIV while breastfeeding infant</p>	<p>Stop breastfeeding and initiate replacement feeding.</p> <p>Perform infant HIV NAT.^a</p> <p>Initiate presumptive HIV therapy using three-drug regimen of ZDV, 3TC, and DTG.^b For infants aged <4 weeks, ZDV and 3TC plus NVP (treatment dose) or RAL should</p>

Table 12. Antiretroviral Management of Infants With Exposure to HIV During Breastfeeding

Level of Transmission Risk During Breastfeeding by Maternal HIV RNA Levels	Description	Infant ARV Management During Breastfeeding ^a
		<p>be used. See Table 12.1 for dosing information.</p> <p>Duration of 2 to 6 weeks; consensus was not reached by Panel members.</p> <p>If the duration of three-drug regimen is <6 weeks and the NAT is negative, continue ZDV alone to complete a total of 6 weeks of prophylaxis.</p>

^a An HIV NAT at birth is recommended for all breastfeeding infants. A NAT should be obtained before or immediately after starting ARVs. See [Diagnosis of HIV Infection in Infants and Children](#) for additional information about infant NATs during breastfeeding and follow-up testing after maternal viremia.

^b DTG, a second-generation integrase strand transfer inhibitor with a higher barrier to resistance than RAL, can be used in infants aged ≥4 weeks and weighing ≥3 kg.

Note: Given limited data, decisions about infant ARV prophylaxis during breastfeeding should be based on shared decision-making with the infant's parents.

Key: 3TC = lamivudine; ART = antiretroviral therapy; ARV = antiretroviral; DTG = dolutegravir; NAT = nucleic acid test; NVP = nevirapine; the Panels = Panel on Treatment of HIV During Pregnancy and Prevention of Perinatal Transmission and Panel on Antiretroviral Therapy and Medical Management of Children Living With HIV; RAL = raltegravir; ZDV = zidovudine

Table 12.1. Antiretroviral Prophylaxis Dosing for Infants Who Are Breastfed

ARV Prophylaxis for Infants When Maternal Sustained Viral Suppression is Achieved												
Recommended Regimen	Recommended Duration and Dosing											
ZDV	ZDV administered for 2 weeks after birth (see Table 11.1 for dosing)											
Options for Extended Postnatal Prophylaxis ^a												
Recommended Regimen	Recommended Duration and Dosing											
ZDV	ZDV administration continued for 4–6 weeks after birth (See Table 11.1 for dosing; note that ZDV is not recommended for prophylaxis beyond this initial postnatal period.)											
NVP ^{b,c}	<p>NVP administered starting at birth or after completion of initial prophylaxis ZDV, through 6 weeks after cessation of breastfeeding</p> <p>Simplified Age-Based NVP Dosing for Newborns ≥32 Weeks' Gestation Receiving Extended NVP Prophylaxis During Breastfeeding^{b,c}</p> <table border="1"> <thead> <tr> <th>Age</th> <th>Dose and Volume of NVP 10 mg/mL Oral Syrup Administered Once Daily</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Birth to 6 weeks</td> <td>2.0 to < 3.0 kg: 10 mg (1.0 mL)</td> </tr> <tr> <td>≥ 3.0 kg: 15 mg (1.5 mL)</td> </tr> <tr> <td>6 weeks to 6 months</td> <td>20 mg (2.0 mL)</td> </tr> <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> </tbody> </table>	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)	6 months to 9 months	30 mg (3.0 mL)	9 months to 18 months	40 mg 4.0 mL
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)											
6 months to 9 months	30 mg (3.0 mL)											
9 months to 18 months	40 mg 4.0 mL											
3TC	<p>3TC administered starting after completion of initial prophylaxis ZDV, through 6 weeks after cessation of breastfeeding</p> <p>Age 2 Weeks to <4 Weeks</p> <ul style="list-style-type: none"> 3TC 2 mg/kg per dose orally twice daily <p>Age ≥4 Weeks to 12 months</p> <ul style="list-style-type: none"> Use simplified weight-band dosing outlined in the table below. 											

Table 12.1. Antiretroviral Prophylaxis Dosing for Infants Who Are Breastfed

Simplified Weight-Band Dosing for 3TC (10 mg/ml Solution) When Used as Prophylaxis During Breastfeeding ^d	
Weight Band	Dose and Volume of 3TC 10 mg/mL Oral Solution Administered Twice Daily
2 to < 3 kg	10 mg (1 mL)
3 kg to <4 kg	15 mg (1.5 mL)
4 kg to <8 kg	25 mg (2.5 mL)
≥8 kg	50 mg (5 mL)

Recommended Infant ARV Management When Maternal Viremia Develops or HIV is Diagnosed During Breastfeeding ^a	
Presumptive HIV Therapy Regimens	Recommended Duration and Dosing
ZDV plus 3TC plus DTG ^e	<p>Three-drug presumptive HIV therapy regimen. ZDV and 3TC plus NVP or RAL should be used in place of DTG for infants aged <4 weeks and/or weighing <3 kg.^{e,f} See Table 11.1 for dosing of ZDV and 3TC in infants aged <6 weeks. Refer to drug sections in Appendix A: Pediatric Antiretroviral Drug Information for appropriate age-based dosing of DTG and for dosing of ZDV, 3TC, NVP, or RAL in infants aged >6 weeks.</p> <p>Presumptive HIV therapy is recommended for a duration of 2–6 weeks (see Table 12).</p>

^a Consultation and referrals to local or regional Pediatric HIV specialists are available through the [National Perinatal HIV Hotline](#) (1-888-448-8765).

^b NVP dosing is adapted from the [Consolidated Guidelines on HIV Prevention, Testing, Treatment, Service Delivery and Monitoring: Recommendations for a Public Health Approach](#). For infants at low risk of transmission, these doses can be given from birth. (Simplified Age-Based Dosing for Newborns ≥32 Weeks' Gestation Receiving Extended NVP Prophylaxis During Breastfeeding in the World Health Organization's [Consolidated Guidelines on HIV Prevention, Testing, Treatment, Service Delivery and Monitoring: Recommendations for a Public Health Approach](#), July 2021)

^c 3TC should be used as extended ARV prophylaxis during breastfeeding when there is evidence or concern for maternal NVP resistant virus (including HIV-2 infection or HIV-1/HIV-2 co-infection) or when an infant cannot tolerate NVP. Dosing recommendations for 3TC are included in the table.

^d 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>.

^e DTG, a second-generation integrase strand transfer inhibitor with a higher barrier to resistance than RAL, is preferred in infants aged ≥4 weeks and weighing ≥3 kg.

^f 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 (see [Table 12.1](#)). The same regimen is recommended for infants at high risk of HIV acquisition after *in utero* or intrapartum exposure (see [Table 11](#) and [Table 11.1](#)). 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.

Table 12.1. Antiretroviral Prophylaxis Dosing for Infants Who Are Breastfed

Key: 3TC = lamivudine; ARV = antiretroviral; NVP = nevirapine; RAL = raltegravir; ZDV = zidovudine

Table 13. Recommended Virologic Testing Schedules for Infants With Perinatal and Breastfeeding Exposure to HIV

Infants With Perinatal HIV Exposure^a	
Risk Category	Age at HIV NAT^{b,c} Testing
<p>Infants at High Risk of HIV Acquisition</p> <p>Infants with perinatal HIV exposure to—</p> <ul style="list-style-type: none"> • Viremia (HIV RNA \geq50 copies/mL) in the 4 weeks prior to delivery • Early (acute or recent) HIV during pregnancy or HIV diagnosed in labor or postpartum <p>Note: 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).</p>	<p>Birth</p> <p>14–21 days</p> <p>1–2 months</p> <p>2–3 months (see note below)</p> <p>4–6 months</p> <p>All infants at high risk 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.</p> <p>Note: Additional virologic testing is recommended 2 to 6 weeks after infant ARV drugs are discontinued (i.e., at age 2 to 3 months if the infant receives 6 weeks of ARV drugs).</p> <p>If an infant's NAT test result is positive, a repeat test should be performed as soon as possible and ART should be initiated.</p>
<p>Infants at Low Risk of HIV Acquisition Who Are Not Being Breastfed</p> <p>Infants with perinatal HIV exposure to—</p> <ul style="list-style-type: none"> • Sustained viral suppression (<50 copies/mL) from 20 weeks of gestation through delivery <p>Note: 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.</p>	<p>Birth (see note below)</p> <p>14–21 days</p> <p>1–2 months (see note below)</p> <p>4–6 months</p> <p>Note: A birth test generally should be performed but is not necessary for infants at low risk of HIV acquisition unless there are concerns that the newborn could be lost to follow-up without further testing.</p> <p>Note: For infants at low risk of HIV acquisition, testing may be timed to occur at least 2 weeks after cessation of ZDV prophylaxis.</p>
<p>Infants Not Meeting Criteria for High or Low Risk of HIV Acquisition</p> <ul style="list-style-type: none"> • In these clinical scenarios, some infants may receive presumptive HIV therapy and others may receive only ZDV prophylaxis. 	<p>For all infants in this group, a NAT should be obtained at birth and the NAT testing schedule for infants at high risk of HIV acquisition (shown above) should be followed.</p> <p>The timing of virologic testing 2 to 6 weeks after ARV drugs are discontinued will vary based on the duration of infant ARV drugs.</p>
<p>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.</p>	
Infants With Perinatal HIV Exposure at Low Risk of HIV Acquisition Who Are Being Breastfed	
Guidance for Virologic Testing During Breastfeeding	Age at HIV NAT^{b,c} Testing

Table 13. Recommended Virologic Testing Schedules for Infants With Perinatal and Breastfeeding Exposure to HIV

<p>From Birth to Age 6 Months</p> <p>A NAT test at birth is recommended for infants with perinatal HIV exposure who are at low risk of HIV acquisition and are being breastfed.</p>	<p>Birth</p> <p>14–21 days</p> <p>1–2 months (see note below)</p> <p>4–6 months</p> <p>Note: NAT testing of the infant should be performed at least every 3 months during breastfeeding. An additional virologic test should be performed if the gap between the tests at ages 1 to 2 months and 4 to 6 months is greater than 3 months.</p> <p>In addition to the standard time points after birth, NAT testing also should be performed at 4 to 6 weeks and 4 to 6 months after cessation of breastfeeding, regardless of the age when breastfeeding ends.</p>
<p>If Breastfeeding Continues Beyond 6 Months of Age</p>	<p>NAT testing of the infant should be performed at least every 3 months during breastfeeding and at 4 to 6 weeks and 4 to 6 months after cessation of breastfeeding, regardless of the age when breastfeeding ends.</p>
<p>If Viremia Develops While Breastfeeding (a detectable viral load)</p>	<p>Prompt NAT testing of the infant</p> <p>Additional testing time points are based on the clinical scenario and use of infant ARV prophylaxis or presumptive HIV therapy; see Table 12 in Antiretroviral Management of Infants With In Utero, Intrapartum, or Breastfeeding Exposure to HIV.</p> <p>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.</p> <p>Consultation with an expert is recommended to determine the need for infant ARV prophylaxis or presumptive HIV therapy and additional testing time points.</p>
<p>Consultation with an expert and/or the National Perinatal HIV Hotline (888-448-8765) is recommended for questions about HIV diagnostic testing for infants with perinatal HIV exposure who are being breastfed.</p> <p>See Table 12 in Antiretroviral Management of Infants With In Utero, Intrapartum, or Breastfeeding Exposure to HIV for information about extended ARV prophylaxis and presumptive HIV therapy during breastfeeding.</p> <p>See Preventing HIV Transmission During Infant Feeding for additional guidance about breastfeeding.</p>	

^a This table summarizes standard time points for HIV virologic diagnostic testing of infants according to risk of perinatal 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 (see [Virologic Assays to Diagnose HIV-2 Infections](#) below).

Key: ART = antiretroviral therapy; ARV = antiretroviral; NAT = nucleic acid test; ZDV = zidovudine

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Updated: June 12, 2025

Reviewed: June 12, 2025

Note: When using fixed-dose combination (FDC) tablets, refer to other sections in [Appendix B](#) and [Table 14](#) in the Perinatal Guidelines for information about the dosing and safety of individual drug components of the FDC tablet during pregnancy.

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
<p>NRTIs</p> <p>NRTIs interfere with HIV reverse transcriptase by competitive inhibition. Nucleoside analogue drugs require three intracellular phosphorylation steps to form the triphosphate nucleoside, which is the active drug moiety. The nucleotide analogue tenofovir contains a monophosphate component attached to the adenine base and requires only two phosphorylation steps to form the active moiety.</p>				
<p>Abacavir (ABC) <i>Ziagen</i></p> <p>(ABC/3TC) <i>Epzicom</i></p> <p>(ABC/DTG/3TC) <i>Triumeq</i></p> <p>(ABC/3TC/ZDV) <i>Trizivir</i></p> <p>Note: Generic products are available for some formulations.</p>	<p>ABC (Ziagen)^c</p> <p><i>Tablet</i></p> <ul style="list-style-type: none"> • 300 mg <p><i>Oral Solution</i></p> <ul style="list-style-type: none"> • 20 mg/mL <p>ABC/3TC (Epzicom)^c</p> <ul style="list-style-type: none"> • ABC 600-mg/ 3TC 300-mg tablet <p>ABC/DTG/3TC (Triumeq)</p> <ul style="list-style-type: none"> • ABC 600-mg/DTG 50-mg/3TC 300-mg tablet <p>ABC/3TC/ZDV (Trizivir)^c</p> <ul style="list-style-type: none"> • ABC 300-mg/ 3TC 150-mg/ ZDV 300-mg tablet 	<p>Pregnancy</p> <p><i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> • PK not significantly altered in pregnancy <p><i>Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> • No change in dose indicated <p>For guidance about use of combination products in pregnancy, please see the specific sections on other components (i.e., 3TC, ZDV, DTG).</p> <p>Standard Adult Doses</p> <p><i>ABC (Ziagen)</i></p> <ul style="list-style-type: none"> • ABC 300 mg twice daily or ABC 600 mg once daily, without regard to food <p><i>ABC/3TC (Epzicom)</i></p> <ul style="list-style-type: none"> • One tablet once daily without regard to food <p><i>ABC/DTG/3TC (Triumeq)</i></p>	<p>High placental transfer to fetus^b</p> <p>No evidence of human teratogenicity (can rule out 1.5-fold increase in overall birth defects)</p> <p>HSRs occur in approximately 5% to 8% of nonpregnant individuals. A small percentage of reactions are fatal, and these fatal reactions are usually associated with re-challenge. The rate of reactions during pregnancy is unknown. Testing for HLA-B*5701 identifies patients at risk of reactions, and a patient's status should be documented as negative before initiating ABC. Patients should be educated regarding symptoms of HSR.</p>	<p>June 12, 2025</p>

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
		<ul style="list-style-type: none"> One tablet once daily without regard to food <p><i>ABC/3TC/ZDV (Trizivir)</i></p> <ul style="list-style-type: none"> One tablet twice daily without regard to food 		
<p>Emtricitabine</p> <p>(FTC) <i>Emtriva</i></p> <p>(FTC/EFV/TDF)</p> <p>(FTC/BIC/TAF) <i>Biktarvy</i></p> <p>(FTC/RPV/TDF) <i>Complera</i></p> <p>(FTC/TAF) <i>Descovy</i></p> <p>(FTC/EVG/c/TAF) <i>Genvoya</i></p> <p>(FTC/RPV/TAF) <i>Odefsey</i></p> <p>(FTC/EVG/c/TDF) <i>Stribild</i></p> <p>(FTC/DRV/c/TAF) <i>Symtuza</i></p> <p>(FTC/TDF) <i>Truvada</i></p>	<p>FTC (Emtriva)</p> <p><i>Capsule^c</i></p> <ul style="list-style-type: none"> 200 mg <p><i>Oral Solution</i></p> <ul style="list-style-type: none"> 10 mg/mL <p>FTC/EFV/TDF^c</p> <ul style="list-style-type: none"> FTC 200-mg/ EFV 60-mg/ TDF 300-mg tablet <p>FTC/BIC/TAF (Biktarvy)</p> <ul style="list-style-type: none"> FTC 200-mg/ BIC 50-mg/ TAF 25-mg tablet <p>FTC/RPV/TDF (Complera)</p> <ul style="list-style-type: none"> FTC 200-mg/ RPV 25-mg/ TDF 300-mg tablet <p>FTC/TAF (Descovy)</p> <ul style="list-style-type: none"> FTC 200-mg/ TAF 25-mg tablet <p>FTC/EVG/c/TAF (Genvoya)</p>	<p>Pregnancy</p> <p><i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> PK of FTC are not significantly altered in pregnancy. <p><i>Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> No change in dose indicated <p>For guidance about the use of combination products in pregnancy, please see the specific sections on other components (i.e., TDF, TAF, EFV, RPV, DRV, EVG, BIC, COBI).</p> <p>Standard Adult Doses</p> <p><i>FTC (Emtriva)</i></p> <ul style="list-style-type: none"> Capsule <ul style="list-style-type: none"> FTC 200 mg once daily without regard to food Oral Solution <ul style="list-style-type: none"> FTC 240 mg (24 mL) once daily without regard to food <p><i>FTC/EFV/TDF</i></p> <ul style="list-style-type: none"> One tablet once daily at or before bedtime Take on an empty stomach to reduce or mitigate side effects. 	<p>High placental transfer to fetus^b</p> <p>No evidence of human teratogenicity (can rule out 1.5-fold increase in overall birth defects)</p> <p>If patient has HBV/HIV coinfection, it is possible that an HBV flare may occur if the drug is stopped; see Hepatitis B Virus/HIV Coinfection.</p>	<p>June 12, 2025</p>

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
<p>Note: Generic products are available for some formulations.</p>	<ul style="list-style-type: none"> • FTC 200-mg/ EVG 150-mg/ COBI 150-mg/ TAF 10-mg tablet <p>FTC/RPV/TAF (Odefsey)</p> <ul style="list-style-type: none"> • FTC 200-mg/ RPV 25-mg/ TAF 25-mg tablet <p>FTC/EVG/c/TDF (Stribild)</p> <ul style="list-style-type: none"> • FTC 200-mg/ EVG 150-mg/ COBI 150-mg/ TDF 300-mg tablet <p>FTC/DRV/c/TAF (Symtuza)</p> <ul style="list-style-type: none"> • FTC 200-mg/ DRV 800-mg/ COBI 150-mg/ TAF 10-mg tablet <p>FTC/TDF (Truvada)^c</p> <ul style="list-style-type: none"> • FTC 200-mg/ TDF 300-mg tablet 	<p><i>FTC/BIC/TAF (Biktarvy)</i></p> <ul style="list-style-type: none"> • One tablet once daily with or without food <p><i>FTC/RPV/TDF (Complera)</i></p> <ul style="list-style-type: none"> • One tablet once daily with food <p><i>FTC/TAF (Descovy)</i></p> <ul style="list-style-type: none"> • One tablet once daily with or without food <p><i>FTC/EVG/c/TAF (Genvoya)</i></p> <ul style="list-style-type: none"> • One tablet once daily with food <p><i>FTC/RPV/TAF (Odefsey)</i></p> <ul style="list-style-type: none"> • One tablet once daily with food <p><i>FTC/DRV/c/TDF (Stribild)</i></p> <ul style="list-style-type: none"> • One tablet once daily with food <p><i>FTC/DRV/c/TAF (Symtuza)</i></p> <ul style="list-style-type: none"> • One tablet once daily with food <p><i>FTC/TDF (Truvada)</i></p> <ul style="list-style-type: none"> • One tablet once daily without regard to food 		
<p>Lamivudine (3TC) <i>EpiVir</i></p> <p>(3TC/TDF) <i>Cimduo</i></p> <p>(3TC/ZDV)</p> <p>(3TC/DOR/TDF)</p>	<p>3TC (EpiVir)^c</p> <p><i>Tablets</i></p> <ul style="list-style-type: none"> • 150 mg • 300 mg <p><i>Oral Solution</i></p> <ul style="list-style-type: none"> • 10 mg/mL 	<p>Pregnancy</p> <p><i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> • PK not significantly altered in pregnancy <p><i>Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> • No change in dose indicated 	<p>High placental transfer to fetus^b</p> <p>No evidence of human teratogenicity (can rule out 1.5-fold increase in overall birth defects)</p> <p>If patient has HBV/HIV coinfection, it is possible that an HBV flare may occur if the drug is stopped; see Hepatitis B Virus/HIV Coinfection.</p>	<p>June 12, 2025</p>

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
<p><i>Delstrigo</i></p> <p>(3TC/DTG) <i>Dovato</i></p> <p>(3TC/ABC)</p> <p>(3TC/EFV/TDF) <i>Symfi</i></p> <p>(3TC/EFV/TDF) <i>Symfi Lo</i></p> <p>(3TC/ABC/DTG) <i>Triumeq</i></p> <p>(3TC/ABC/DTG) <i>Triumeq PD</i></p> <p>(3TC/ABC/ZDV)</p> <p>Note: Generic products are available for some formulations.</p>	<p>3TC/TDF (Cimduo)</p> <ul style="list-style-type: none"> • 3TC 300-mg/TDF 300-mg tablet <p>3TC/ZDV^c</p> <ul style="list-style-type: none"> • 3TC 150-mg/ZDV 300-mg tablet <p>3TC/DOR/TDF (Delstrigo)</p> <ul style="list-style-type: none"> • 3TC 300-mg/DOR 100-mg/TDF 300-mg tablet <p>3TC/DTG (Dovato)</p> <ul style="list-style-type: none"> • 3TC 300-mg/DTG 50-mg tablet <p>3TC/ABC^c</p> <ul style="list-style-type: none"> • 3TC 300-mg/ABC 600-mg tablet <p>3TC/EFV/TDF (Symfi)^c</p> <ul style="list-style-type: none"> • 3TC 300-mg/EFV 600-mg/TDF 300-mg tablet <p>3TC/EFV/TDF (Symfi Lo)^c</p> <ul style="list-style-type: none"> • 3TC 300-mg/EFV 400-mg/TDF 300-mg tablet <p>3TC/ABC/DTG (Triumeq)</p> <ul style="list-style-type: none"> • 3TC 300-mg/ABC 600-mg/DTG 50-mg tablet <p>3TC/ABC/DTG (Triumeq PD)</p>	<p>For guidance about the use of combination products in pregnancy, please see the specific sections on other components (ABC, DOR, DTG, EFV, TDF, ZDV).</p> <p>Standard Adult Doses</p> <p><i>3TC (EpiVir)</i></p> <ul style="list-style-type: none"> • 3TC 150 mg twice daily or 300 mg once daily, without regard to food <p><i>3TC/TDF (Cimduo)</i></p> <ul style="list-style-type: none"> • One tablet once daily without regard to food <p><i>3TC/ZDV</i></p> <ul style="list-style-type: none"> • One tablet twice daily without regard to food <p><i>3TC/DOR/TDF (Delstrigo)</i></p> <ul style="list-style-type: none"> • One tablet once daily without regard to food <p><i>3TC/DTG (Dovato)</i></p> <ul style="list-style-type: none"> • One tablet once daily without regard to food <p><i>3TC/ABC</i></p> <ul style="list-style-type: none"> • One tablet once daily without regard to food <p><i>3TC/EFV/TDF (Symfi or Symfi Lo)</i></p> <ul style="list-style-type: none"> • One tablet once daily on an empty stomach and preferably at bedtime <p><i>3TC/ABC/DTG (Triumeq)</i></p> <ul style="list-style-type: none"> • One tablet once daily without regard to food <p><i>3TC/ABC/DTG (Triumeq PD)</i></p>	<p>3TC products that were developed specifically for treatment of HBV (e.g., EpiVir-HBV) contain a lower dose of 3TC that is not appropriate for treatment of HIV.</p>	

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
	<ul style="list-style-type: none"> Pediatric dispersible tablet: 3TC 30-mg/ABC 60-mg/DTG 5-mg <p>3TC/ABC/ZDV^c</p> <ul style="list-style-type: none"> 3TC 150-mg/ABC 300-mg/ZDV 300-mg tablet 	<ul style="list-style-type: none"> Triumeq PD is a pediatric dispersible tablet not intended for use in adults; it is not recommended for use in patients weighing 25 kg or more. <p>3TC/ABC/ZDV</p> <ul style="list-style-type: none"> One tablet twice daily without regard to food 		
<p>Tenofovir Alafenamide (TAF) <i>Vemlidy</i></p> <p>(TAF/BIC/FTC) <i>Biktarvy</i></p> <p>(TAF/FTC) <i>Descovy</i></p> <p>(TAF/EVG/c/FTC) <i>Genvoya</i></p> <p>(TAF/FTC/RPV) <i>Odefsey</i></p> <p>(TAF/DRV/c/FTC) <i>Symtuza</i></p>	<p>TAF (Vemlidy)</p> <ul style="list-style-type: none"> 25-mg tablet <p>TAF/BIC/FTC (Biktarvy)</p> <ul style="list-style-type: none"> TAF 25-mg/ BIC 50-mg/FTC 200-mg tablet <p>TAF/FTC (Descovy)</p> <ul style="list-style-type: none"> TAF 25-mg/FTC 200-mg tablet <p>TAF/EVG/c/FTC (Genvoya)</p> <ul style="list-style-type: none"> TAF 10-mg/EVG-150-mg/COBI 150-mg/FTC 200-mg tablet <p>TAF/FTC/RPV (Odefsey)</p> <ul style="list-style-type: none"> TAF 25-mg/FTC 200-mg/RPV 25-mg tablet <p>TAF/DRV/c/FTC (Symtuza)</p> <ul style="list-style-type: none"> TAF 10-mg/DRV 800-mg/COBI 150-mg/FTC 200-mg tablet 	<p>Pregnancy</p> <p><i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> AUC is lower in pregnancy, depending on the dose and concomitant ARV, but overall exposures are adequate. <p><i>Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> No change in dose indicated. <p>For guidance about the use of combination products in pregnancy, please see the specific sections on other components (i.e., BIC, COBI, DRV, EVG, FTC, RPV).</p> <p>Standard Adult Doses</p> <p><i>TAF (Vemlidy)</i></p> <ul style="list-style-type: none"> One tablet once daily with food <p><i>TAF/BIC/FTC (Biktarvy)</i></p> <ul style="list-style-type: none"> One tablet once daily with or without food <p><i>TAF/FTC (Descovy)</i></p> <ul style="list-style-type: none"> One tablet once daily with or without food 	<p><i>TAF</i></p> <ul style="list-style-type: none"> Low placental transfer to fetus^b <p><i>TFV</i></p> <ul style="list-style-type: none"> High placental transfer to fetus; plasma and cord blood concentrations lower than TDF^b <p>No evidence of human teratogenicity (can rule out twofold increase in overall birth defects)</p> <p>Renal function should be monitored because of the potential for renal toxicity.</p>	<p>June 12, 2025</p>

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
		<ul style="list-style-type: none"> • Same dose (TAF 25 mg) can be used with or without PK enhancers. <p><i>TAF/EVG/c/FTC (Genvoya)</i></p> <ul style="list-style-type: none"> • One tablet once daily with food <p><i>TAF/FTC/RPV (Odefsey)</i></p> <ul style="list-style-type: none"> • One tablet once daily with food <p><i>TAF/DRV/c/FTC (Symtuza)</i></p> <ul style="list-style-type: none"> • One tablet once daily with food 		
<p>Tenofovir Disoproxil Fumarate (TDF) <i>Viread</i></p> <p>(TDF/EFV/FTC) <i>Atripla^d</i></p> <p>(TDF/3TC) <i>Cimduo</i></p> <p>(TDF/FTC/RPV) <i>Complera</i></p> <p>(TDF/DOR/3TC) <i>Delstrigo</i></p> <p>(TDF/EVG/c/FTC) <i>Stribild</i></p> <p>(TDF/EFV/3TC) <i>Symfi</i></p> <p>(TDF/EFV/3TC)</p>	<p>TDF (Viread)</p> <p><i>Tablet^c</i></p> <ul style="list-style-type: none"> • 300 mg <p><i>Powder</i></p> <ul style="list-style-type: none"> • 40-mg/1-g oral powder <p>TDF/EFV/FTC (Atripla)^{c,d}</p> <ul style="list-style-type: none"> • TDF 300-mg/EFV 600-mg/FTC 200-mg tablet <p>TDF/3TC (Cimduo)</p> <ul style="list-style-type: none"> • TDF 300-mg/3TC 300-mg tablet <p>TDF/FTC/RPV (Complera)</p> <ul style="list-style-type: none"> • TDF 300-mg/FTC 200-mg/RPV 25-mg tablet <p>TDF/DOR/3TC (Delstrigo)</p>	<p>Pregnancy</p> <p><i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> • AUC is lower in third trimester than postpartum, but trough levels are adequate. <p><i>Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> • No change in dose is indicated. <p>For guidance about the use of combination products in pregnancy, please see the specific sections on other components (i.e., 3TC, COBI, DOR, EFV, EVG, FTC, RPV).</p> <p>Standard Adult Doses</p> <p><i>TDF (Viread)</i></p> <ul style="list-style-type: none"> • Tablet <ul style="list-style-type: none"> ○ TDF 300 mg once daily without regard to food • Powder 	<p>High placental transfer to fetus^b</p> <p>No evidence of human teratogenicity (can rule out 1.5-fold increase in overall birth defects)</p> <p>Human studies demonstrate no consistent link to LBW, but data are conflicting about potential effects on growth outcomes later in infancy.</p> <p>If patient has HBV/HIV coinfection, an HBV flare may occur if TDF is stopped; see Hepatitis B Virus/HIV Coinfection.</p> <p>Renal function should be monitored because of potential for renal toxicity.</p>	<p>June 12, 2025</p>

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
<p><i>Symfi Lo</i></p> <p>(TDF/FTC) <i>Truvada</i></p> <p>Note: Generic products are available for some formulations.</p>	<ul style="list-style-type: none"> TDF 300-mg/DOR 100-mg/3TC 300-mg tablet <p>TDF/EVG/c/FTC (Stribild)</p> <ul style="list-style-type: none"> TDF 300-mg/EVG 150-mg/COBI 150-mg/FTC 200-mg tablet <p>TDF/EFV/3TC (Symfi)</p> <ul style="list-style-type: none"> TDF 300-mg/EFV 600-mg/3TC 300-mg tablet <p>TDF/EFV/3TC (Symfi Lo)</p> <ul style="list-style-type: none"> TDF 300-mg/EFV 400-mg/3TC 300-mg tablet <p>TDF/FTC (Truvada)^c</p> <ul style="list-style-type: none"> TDF 300-mg/FTC 200-mg tablet 	<ul style="list-style-type: none"> TDF 8 mg/kg daily (up to a maximum of TDF 300 mg). Take with food. <p><i>TDF/EFV/FTC (Atripla)^d</i></p> <ul style="list-style-type: none"> One tablet once daily at or before bedtime. Take on an empty stomach to reduce side effects. <p><i>TDF/3TC (Cimduo)</i></p> <ul style="list-style-type: none"> One tablet once daily without regard to food <p><i>TDF/FTC/RPV (Complera)</i></p> <ul style="list-style-type: none"> One tablet once daily with food <p><i>TDF/DOR/3TC (Delstrigo)</i></p> <ul style="list-style-type: none"> One tablet once daily without regard to food <p><i>TDF/EVG/c/FTC (Stribild)</i></p> <ul style="list-style-type: none"> One tablet once daily with food <p><i>TDF/EFV/3TC (Symfi or Symfi Lo)</i></p> <ul style="list-style-type: none"> One tablet once daily on an empty stomach and preferably at bedtime <p><i>TDF/FTC (Truvada)</i></p> <ul style="list-style-type: none"> One tablet once daily without regard to food 		
<p>Zidovudine (ZDV) <i>Retrovir</i></p> <p>(ZDV/3TC)</p> <p>(ZDV/ABC/3TC)</p>	<p>ZDV (Retrovir)</p> <p><i>Capsule</i></p> <ul style="list-style-type: none"> 100 mg <p><i>Tablet</i></p> <ul style="list-style-type: none"> 300 mg 	<p>Pregnancy</p> <p><i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> PK not significantly altered in pregnancy <p><i>Dosing in Pregnancy</i></p> <p>No change in dose indicated</p>	<p>High placental transfer to fetus^b</p> <p>No evidence of human teratogenicity (can rule out 1.5-fold increase in overall birth defects)</p>	<p>June 12, 2025</p>

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
<p>Note: Generic products are available for all formulations.</p>	<p><i>Oral Solution</i></p> <ul style="list-style-type: none"> • 10 mg/mL <p><i>IV Solution</i></p> <ul style="list-style-type: none"> • 10 mg/mL <p>ZDV/3TC</p> <ul style="list-style-type: none"> • ZDV 300-mg/3TC 150-mg tablet <p>ZDV/ABC/3TC</p> <ul style="list-style-type: none"> • ZDV 300-mg/ABC 300-mg/3TC 150-mg tablet 	<ul style="list-style-type: none"> • Patients in active labor should receive ZDV 2 mg/kg IV as a loading dose, followed by ZDV 1 mg/kg/hour continuous infusion from beginning of active labor until birth. <p>For guidance about the use of combination products in pregnancy, please see the specific sections on other components (i.e., ABC, 3TC).</p> <p>Standard Adult Doses</p> <p><i>ZDV (Retrovir)</i></p> <ul style="list-style-type: none"> • ZDV 300 mg twice daily or ZDV 200 mg three times a day without regard to food <p><i>ZDV/3TC (Combivir)</i></p> <ul style="list-style-type: none"> • One tablet twice daily without regard to food <p><i>ZDV/ABC/3TC (Trizivir)</i></p> <ul style="list-style-type: none"> • One tablet twice daily without regard to food 		
<p>NNRTIs NNRTIs interfere with HIV reverse transcriptase by binding directly to the enzyme.</p>				
<p>Doravirine (DOR) <i>Pifeltro</i></p> <p>(DOR/3TC/TDF) <i>Delstrigo</i></p>	<p>DOR (Pifeltro)</p> <ul style="list-style-type: none"> • 100-mg tablet <p>DOR/3TC/TDF (Delstrigo)</p> <ul style="list-style-type: none"> • DOR 100-mg/3TC 300-mg/TDF 300-mg tablet 	<p>Pregnancy</p> <p><i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> • No PK studies in human pregnancy <p><i>Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> • Insufficient data to make dosing recommendations <p>For guidance about the use of combination ARV drug products in pregnancy, please see the specific sections on other drug components (i.e., 3TC, TDF).</p> <p>Standard Adult Doses</p>	<p>No human <i>in vivo</i> data are available on the placental transfer of DOR, but passage is noted in <i>ex vivo</i> models.</p> <p>Insufficient data are available to assess for teratogenicity in humans. No evidence exists of teratogenicity in rats or rabbits.</p>	<p>June 12, 2025</p>

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
		<p><i>DOR (Pifeltro)</i></p> <ul style="list-style-type: none"> • DOR 100 mg once daily with or without food <p><i>DOR/3TC/TDF (Delstrigo)</i></p> <ul style="list-style-type: none"> • One tablet once daily with or without food 		
<p>Efavirenz (EFV)</p> <p>(EFV/FTC/TDF)</p> <p>(EFV/3TC/TDF) <i>Symfi</i></p> <p>(EFV/3TC/TDF) <i>Symfi Lo</i></p> <p>Note: Generic products are available for some formulations.</p>	<p>EFV</p> <p><i>Capsules</i></p> <ul style="list-style-type: none"> • 50 mg • 200 mg <p><i>Tablet</i></p> <ul style="list-style-type: none"> • 600 mg <p>EFV/FTC/TDF</p> <ul style="list-style-type: none"> • EFV 600-mg/FTC 200-mg/TDF 300mg tablet <p>EFV/3TC/TDF (Symfi)</p> <ul style="list-style-type: none"> • EFV 600-mg/3TC 300-mg/TDF 300mg tablet <p>EFV/3TC/TDF (Symfi Lo)</p> <ul style="list-style-type: none"> • EFV 400-mg/3TC 300-mg/TDF 300mg tablet 	<p>Pregnancy</p> <p><i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> • AUC is decreased during the third trimester compared with postpartum, but nearly all third-trimester participants exceeded target exposure. <p><i>Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> • No change in dose is indicated. <p>For guidance about the use of combination products in pregnancy, please see the specific sections on other components (i.e., 3TC, FTC, TDF).</p> <p>Standard Adult Doses</p> <p><i>EFV (Sustiva)</i></p> <ul style="list-style-type: none"> • EFV 600 mg once daily at or before bedtime • Take on an empty stomach to reduce side effects. <p><i>EFV/FTC/TDF</i></p> <ul style="list-style-type: none"> • One tablet once daily at or before bedtime • Take on an empty stomach to reduce side effects. <p><i>EFV/3TC/TDF (Symfi or Symfi Lo)</i></p> <ul style="list-style-type: none"> • One tablet once daily on an empty stomach and preferably at bedtime 	<p>Moderate placental transfer to fetus^b</p> <p>The FDA advises women to avoid becoming pregnant while taking EFV and advises health care providers to avoid administration during the first trimester of pregnancy because fetal harm may occur. However, the data on more than 7,900 periconception EFV exposures from Botswana rule out a threefold or greater increased risk of NTDs. As a result, the current Perinatal Guidelines do not restrict the use of EFV during pregnancy or when planning to become pregnant. This is consistent with both the British HIV Association and WHO guidelines for use of ARV drugs in pregnancy.</p> <p>EFV should be continued in pregnancy when a virally suppressive, EFV-based regimen is being received, because ARV drug changes during pregnancy may be associated with loss of viral control and an increased risk of perinatal transmission (see Antiretroviral Therapy Use During Prepregnancy and Early Pregnancy).</p>	<p>June 12, 2025</p>

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
<p>Etravirine (ETR) <i>Intence</i></p>	<p>Tablet</p> <ul style="list-style-type: none"> • 25 mg • 100 mg • 200 mg <p>For patients who are unable to swallow tablets whole, the tablets may be dissolved in a glass of water.</p>	<p>Pregnancy</p> <p><i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> • PK data in pregnancy suggest 1.2-fold to 1.6-fold increases in ETR exposure during pregnancy. <p><i>Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> • No change in dose is indicated. <p>Standard Adult Doses</p> <ul style="list-style-type: none"> • 200 mg twice daily with food 	<p>Placental transfer varies; it is usually in the moderate-to-high category, ranging from 0.19 to 4.25.^b</p> <p>Insufficient data to assess for teratogenicity in humans; no evidence of teratogenicity in rats or rabbits</p>	<p>June 12, 2025</p>
<p>Nevirapine (NVP)</p>	<p>NVP</p> <p><i>Tablet</i></p> <ul style="list-style-type: none"> • 200 mg^c <p><i>Oral Suspension</i></p> <ul style="list-style-type: none"> • 50 mg/5 mL^c 	<p>Pregnancy</p> <p><i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> • PK of immediate-release tablets not significantly altered in pregnancy • No data available on extended-release formulations in pregnancy <p><i>Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> • No change in dose indicated <p>Standard Adult Doses</p> <ul style="list-style-type: none"> • NVP 200 mg once daily (using immediate release tablet) for a 14-day lead-in period; thereafter, NVP 200 mg twice daily without regard to food • Repeat the lead-in period if therapy is discontinued for >7 days. • In patients who develop mild-to-moderate rash without constitutional symptoms during the lead-in period, continue lead-in dosing until rash resolves, but administer for ≤28 days total. 	<p>High placental transfer to fetus^b</p> <p>No evidence of human teratogenicity</p> <p>An increased risk of symptomatic liver toxicity exists when first initiating therapy in women with CD4 counts ≥250/mm³. Liver toxicity is often associated with a rash and can be fatal. Pregnancy does not appear to increase this risk.</p> <p>NVP should be initiated in pregnancy when CD4 counts ≥250 cells/mm³ only if the benefit clearly outweighs the risk. A potential increased risk of life-threatening hepatotoxicity exists in pregnancy when CD4 counts are high. Elevated transaminase levels at baseline may increase the risk of NVP toxicity.</p> <p>Patients who become pregnant while taking NVP-containing regimens and who are tolerating their regimens well can continue taking those regimens, regardless of their CD4 counts.</p>	<p>June 12, 2025</p>

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
<p>Rilpivirine (RPV) <i>Edurant</i></p> <p>(RPV/FTC/TDF) <i>Complera</i></p> <p>(RPV/DTG) <i>Juluca</i></p> <p>(RPV/FTC/TAF) <i>Odefsey</i></p> <p>(CAB and RPV) <i>Cabenuva</i></p> <p>CAB and RPV is a two-drug co-packaged product for IM injection.</p>	<p>RPV (Edurant)</p> <p><i>Tablets</i></p> <ul style="list-style-type: none"> • 25 mg <p>RPV/FTC/TDF (Complera)</p> <ul style="list-style-type: none"> • RPV 25-mg/ FTC 200-mg/ TDF 300-mg tablet <p>RPV/DTG (Juluca)</p> <ul style="list-style-type: none"> • RPV 25-mg/DTG 50-mg tablet <p>RPV/FTC/TAF (Odefsey)</p> <ul style="list-style-type: none"> • RPV 25-mg/FTC 200-mg/ TAF 25-mg tablet <p>CAB and RPV (Cabenuva)</p> <ul style="list-style-type: none"> • CAB 200-mg/mL suspension for IM injection • RPV 300-mg/mL suspension for IM injection 	<p>Pregnancy</p> <p><i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> • RPV PK are highly variable during pregnancy. RPV AUC and trough concentrations are 20% to 50% lower in pregnancy than postpartum. Although most pregnant women exceeded target exposure, those with detectable viral loads had lower RPV troughs. <p><i>Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> • Although RPV plasma concentration is reduced during pregnancy, higher-than-standard doses have not been studied, and not enough data are available to recommend a dosing change during pregnancy. When standard dosing of RPV is received during pregnancy, viral loads should be monitored more frequently. <p>For guidance about the use of combination products in pregnancy, please see the specific sections on other components (i.e., CAB, DTG, FTC, TAF, TDF).</p> <p>Standard Adult Doses</p> <p><i>RPV (Edurant)</i></p> <ul style="list-style-type: none"> • RPV 25 mg once daily with food <p><i>RPV/FTC/TDF (Complera)</i></p> <ul style="list-style-type: none"> • One tablet once daily with food <p><i>RPV/DTG (Juluca)</i></p> <ul style="list-style-type: none"> • One tablet once daily with food <p><i>RPV/FTC/TAF (Odefsey)</i></p>	<p>Moderate-to-high placental transfer to fetus^b</p> <p>No evidence of human teratogenicity (can rule out twofold increase in overall birth defects)</p> <p>Two-drug regimens (e.g., the RPV/DTG FDC) are not recommended for use in pregnancy.</p>	<p>June 12, 2025</p>

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
		<ul style="list-style-type: none"> One tablet once daily with food <p><i>CAB and RPV (Cabenuva)</i></p> <ul style="list-style-type: none"> Refer to Cabotegravir for dosing and instructions. 		
<p>PIs</p> <p>PIs block the activity of the protease enzyme, which is required to assemble new HIV viral particles that are capable of infecting new cells.</p>				
<p>Atazanavir (ATV) <i>Reyataz</i></p> <p>Note: Generic products are available for some formulations.</p> <p>Note: ATV must be combined with low-dose RTV boosting in pregnancy.</p> <p>(ATV/c) <i>Evotaz</i></p>	<p>ATV (Reyataz) <i>Capsules</i></p> <ul style="list-style-type: none"> 100 mg^c (generic product only) 150 mg^c (generic product only) 200 mg^c 300 mg^c <p><i>Oral Powder</i></p> <ul style="list-style-type: none"> 50-mg packet <p>ATV/c (Evotaz)</p> <ul style="list-style-type: none"> ATV 300-mg/COBI 150-mg tablet 	<p>Pregnancy</p> <p><i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> ATV (Reyataz) <ul style="list-style-type: none"> ATV concentrations are reduced during pregnancy, and they are further reduced when ATV is given concomitantly with TDF or an H2-receptor antagonist. Intracellular ATV levels in women taking the standard dose (ATV/r 300 mg/100 mg) without concomitant TDF appear reassuringly stable throughout pregnancy. ATV/c (Evotaz) <ul style="list-style-type: none"> Use of ATV/c is not recommended during pregnancy because ATV C_{trough} are 80% to 85% lower than the ATV concentrations seen in nonpregnant adults. <p><i>Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> ATV (Reyataz) <ul style="list-style-type: none"> Use of unboosted ATV is not recommended during pregnancy. Use of unboosted ATV is not recommended during pregnancy for ARV- 	<p>Low placental transfer to fetus^b</p> <p>No evidence of human teratogenicity (can rule out 1.5-fold increase in overall birth defects)</p> <p>Must be given with RTV boosting in pregnancy</p> <p>Effect of <i>in utero</i> ATV exposure on infant indirect bilirubin levels is unclear. Nonpathologic elevations of neonatal bilirubin have been observed in some, but not all, clinical trials to date.</p> <p>Oral powder (but not capsules) contains phenylalanine, which can be harmful to patients with phenylketonuria.</p> <p>Use of ATV/c is not recommended during pregnancy. See Recommendations for Use of Antiretroviral Drugs During Pregnancy, Table 6 and Table 7 for discussions about avoiding the use of ATV/c during pregnancy.</p>	<p>June 12, 2025</p>

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
		<p>experienced patients who are taking TDF and an H2-receptor antagonist.</p> <ul style="list-style-type: none"> ○ Use of an increased dose (ATV/r 400 mg/100 mg once daily with food) during the second and third trimesters results in plasma ATV concentrations equivalent to those seen in nonpregnant adults receiving standard dosing. Increased ATV dosing is recommended during the second and third trimesters when either TDF or an H2-receptor antagonist is also being received. • ATV/c (Evotaz) <ul style="list-style-type: none"> ○ ATV/c should not be used in pregnancy because atazanavir C_{min} is substantially reduced (see COBI). <p>For guidance about the use of combination products in pregnancy, see the specific sections on other components (i.e., COBI).</p> <p>Standard Adult Doses</p> <p><i>In ARV-Naive Patients Without RTV Boosting</i></p> <ul style="list-style-type: none"> • ATV 400 mg once daily with food; ATV without RTV boosting is not recommended when used with TDF, H2-receptor antagonists, PPIs, or during pregnancy. <p><i>In ARV-Naive Patients With RTV Boosting</i></p> <ul style="list-style-type: none"> • ATV/r 300 mg/100 mg once daily with food • When combined with EFV in ARV-naive patients: ATV/r 400 mg/100 mg once daily with food 	<p>Note: Please see FDA label for full list of drugs with potential interactions, including several anticonvulsants and other drugs for which administration with ATV/r is contraindicated.</p>	

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
		<p><i>In ARV-Experienced Patients</i></p> <ul style="list-style-type: none"> • ATV 300 mg plus RTV 100 mg once daily with food • Do not use with PPIs or EFV. <p><i>In ARV-Experienced Patients Who Are Receiving an H2-Receptor Antagonist</i></p> <ul style="list-style-type: none"> • ATV/r 300/100 mg once daily with food <p><i>In ARV-Experienced Patients Who Are Receiving an H2-Receptor Antagonist and TDF</i></p> <ul style="list-style-type: none"> • ATV/r 400 mg/100 mg once daily with food <p><i>Powder Formulation</i></p> <ul style="list-style-type: none"> • Oral powder is taken with RTV once daily with food at the same recommended adult dose as the capsules. <p><i>ATV/c (Evotaz)</i></p> <ul style="list-style-type: none"> • One tablet once daily with food 		
<p>Darunavir (DRV) <i>Prezista</i></p> <p>Note: Must be combined with low-dose RTV or COBI boosting.</p> <p>(DRV/c) <i>Prezcobix</i></p> <p>(DRV/c/FTC/TAF) <i>Symtuza</i></p>	<p>DRV (Prezista)</p> <p><i>Tablets</i></p> <ul style="list-style-type: none"> • 75 mg • 150 mg • 600 mg • 800 mg <p><i>Oral Suspension</i></p> <ul style="list-style-type: none"> • 100 mg/mL <p>DRV/c (Prezcobix)</p>	<p>Pregnancy</p> <p><i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> • Decreased exposure in pregnancy with use of DRV/r <p><i>Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> • The Panel does not recommend once-daily dosing with DRV/r during pregnancy or the use of DRV/c during pregnancy. 	<p>Low placental transfer to fetus^b</p> <p>No evidence of teratogenicity in mice, rats, or rabbits. No evidence of human teratogenicity.</p> <p>Must be boosted with low-dose RTV</p> <p>The Panel does not recommend once-daily dosing with DRV/r during pregnancy or the use of DRV/c during pregnancy. If a DRV/c regimen is continued during pregnancy, viral load should be monitored frequently.</p>	<p>June 12, 2025</p>

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
	<ul style="list-style-type: none"> DRV/c 800-mg/150-mg tablet <p>DRV/c/FTC/TAF (Symtuza)</p> <ul style="list-style-type: none"> DRV 800-mg/COBI 150-mg/FTC 200-mg/TAF 10-mg tablet 	<ul style="list-style-type: none"> Twice-daily DRV/r dosing (DRV/r 600 mg/100 mg with food) is recommended during all pregnancies. Increased twice-daily DRV dose (DRV/r 800 mg/100 mg with food) during pregnancy does not result in an increase in DRV exposure and is not recommended. <p>For guidance about use of combination products in pregnancy, please see the specific sections on other components (i.e., COBI, FTC, TAF).</p> <p>Standard Adult Doses</p> <p><i>Patients Who Are ARV-Naive</i></p> <ul style="list-style-type: none"> DRV/r 800 mg/100 mg once daily with food DRV/c 800 mg/150 mg once daily with food <p><i>ARV-Experienced Patients If Patient Has No DRV Resistance Mutations</i></p> <ul style="list-style-type: none"> DRV/r 800 mg/100 mg once daily with food DRV/c 800 mg/150 mg once daily with food <p><i>ARV-Experienced Patients If Any DRV Resistance Mutations Are Present</i></p> <ul style="list-style-type: none"> DRV/r 600 mg/100 mg twice daily with food <p><i>DRV/c (Prezcobix)</i></p> <ul style="list-style-type: none"> One tablet once daily with food <p><i>DRV/c/FTC/TAF (Symtuza)</i></p> <ul style="list-style-type: none"> One tablet once daily with food 		

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
<p>Lopinavir/Ritonavir (LPV/r) Kaletra</p> <p>Note: Generic products are available for all formulations.</p>	<p>LPV/r (Kaletra)^c</p> <p><i>Tablets</i></p> <ul style="list-style-type: none"> • LPV/r 200 mg/50 mg • LPV/r 100 mg/25 mg <p><i>Oral Solution</i></p> <ul style="list-style-type: none"> • Each 5 mL contains LPV/r 400 mg/100 mg. 	<p>Pregnancy</p> <p><i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> • With twice-daily dosing, LPV exposure is reduced in pregnant women who receive standard adult doses; increasing the dose by 50% results in exposure equivalent to that seen in nonpregnant adults receiving standard doses. • No PK data are available for once-daily dosing in pregnancy. <p><i>Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> • Once-daily dosing is not recommended during pregnancy. • Some experts recommend that an increased dose (i.e., LPV/r 600 mg/150 mg twice daily without regard to meals or LPV/r 500 mg/125 mg twice daily without regard to meals) should be used in the second and third trimesters, especially in PI-experienced pregnant women and women who start treatment during pregnancy with a baseline viral load >50 copies/mL. • When standard dosing is used, monitor virologic response and, if possible, LPV drug levels. <p>Standard Adult Doses</p> <ul style="list-style-type: none"> • LPV/r 400 mg/100 mg twice daily, <i>or</i> • LPV/r 800 mg/200 mg once daily <p><i>Tablet</i></p> <ul style="list-style-type: none"> • Take without regard to food. <p><i>Oral Solution</i></p> <ul style="list-style-type: none"> • Take with a meal. 	<p>Low placental transfer to fetus^b</p> <p>No evidence of human teratogenicity (can rule out 1.5-fold increase in overall birth defects)</p> <p>Oral solution contains 42% alcohol and 15% propylene glycol and is not recommended for use in pregnancy.</p> <p>Once-daily LPV/r dosing is not recommended during pregnancy.</p>	<p>June 12, 2025</p>

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
		<p><i>With EFV or NVP in PI-Naive or PI-Experienced Patients</i></p> <ul style="list-style-type: none"> • LPV/r 500-mg/125-mg tablets twice daily without regard to meals (use a combination of two LPV/r 200-mg/50-mg tablets and one LPV/r 100-mg/25-mg tablet), <i>or</i> • LPV/r 520-mg/130-mg oral solution (6.5 mL) twice daily with food 		
<p>Entry Inhibitors Entry and attachment inhibitors block viral binding or fusion of HIV to host cells.</p>				
<p>Fostemsavir (FTR) <i>Rukobia</i></p>	<ul style="list-style-type: none"> • Extended-release tablet: 600 mg 	<p>Pregnancy <i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> • No PK studies in human pregnancy <p><i>Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> • Insufficient data to make dosing recommendation <p>Standard Adult Doses <i>(FTR) Rukobia</i></p> <ul style="list-style-type: none"> • FTR 600 mg twice daily with or without food 	<p>No human data are available regarding placental passage. A study in rats demonstrates placental passage of temsavir or other metabolites.</p> <p>Insufficient data to assess for teratogenicity in humans. No evidence of teratogenicity in rats or rabbits.</p>	<p>June 12, 2025</p>
<p>Ibalizumab-uiyk (IBA) <i>Trogarzo</i></p>	<p>IV Solution</p> <ul style="list-style-type: none"> • 150 mg/mL 	<p>Pregnancy <i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> • No PK studies in human pregnancy <p><i>Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> • Insufficient data to make dosing recommendations <p>Standard Adult Doses <i>IV infusion (diluted infusion with 250 mL 0.9% sodium chloride)</i></p>	<p>No human data are available, but placental transfer of IBA, a monoclonal antibody, is possible and documented in monkeys.</p> <p>Based on data in cynomolgus monkeys with <i>in utero</i> exposure, the potential exists for reversible immunosuppression (CD4 T-cell and B-cell lymphocytopenia) in infants exposed to IBA during pregnancy.</p>	<p>June 12, 2025</p>

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
		<ul style="list-style-type: none"> IBA 2,000-mg loading dose over 30 minutes, followed by IBA 800-mg maintenance doses over 15 minutes administered every 2 weeks IV push (undiluted) IBA 2,000-mg loading dose over 90 seconds, followed by IBA 800-mg maintenance doses over 30 seconds administered every 2 weeks 	<p>The FDA requires collection of prospective data on IBA exposure during pregnancy to monitor maternal and pregnancy outcomes, including adverse effects on the developing fetus, neonate, and infant.</p> <p>Insufficient data to assess for teratogenicity in humans.</p>	
<p>Maraviroc (MVC) <i>Selzentry</i></p>	<p>Tablets</p> <ul style="list-style-type: none"> 150 mg 300 mg 	<p>Pregnancy</p> <p><i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> A PK study in human pregnancy demonstrated a 20% to 30% overall decrease in MVC AUC, but C_{trough} exceeded the recommended minimum concentration of 50 ng/mL. <p><i>Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> Adjusting the standard adult MVC dose for concomitant use with ARV drugs seems appropriate. <p>Standard Adult Doses</p> <ul style="list-style-type: none"> MVC 300 mg twice daily with or without food MVC should be used only for patients with CCR5-tropic virus (and no X4-tropic virus). <p><i>Dose Adjustments</i></p> <ul style="list-style-type: none"> Increase to MVC 600 mg twice daily when used with the potent CYP3A inducers EFV, ETR, and rifampin. Decrease to MVC 150 mg twice daily when used with CYP3A inhibitors, which include all PIs except TPV/r and itraconazole. 	<p>Moderate placental transfer to fetus^p</p> <p>No evidence of teratogenicity in rats or rabbits; insufficient data to assess teratogenicity in humans</p>	<p>June 12, 2025</p>

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
<p>Capsid Inhibitor</p> <p>Capsid inhibitors are a class of drugs that interfere with HIV capsid, a protein shell that protects HIV's genetic material and enzymes needed for replication. Capsid inhibitors can disrupt HIV capsid during multiple stages of the viral life cycle.</p>				
<p>Lenacapavir (LEN) <i>Sunlenca</i></p>	<p>LEN (Sunlenca)</p> <ul style="list-style-type: none"> • LEN 300-mg tablets for oral administration • LEN 463.5 mg/1.5 ml for SQ injection 	<p>Pregnancy</p> <p><i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> • No PK studies in human pregnancy <p><i>Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> • Insufficient data to make dosing recommendations <p>Standard Adult Doses</p> <p><i>Initiation Option 1</i></p> <ul style="list-style-type: none"> • Day 1: 927 mg by SQ injection (2 x 1.5 mL injections) and 600 mg orally (2 x 300-mg tablets) • Day 2: 600 mg orally (2 x 300-mg tablets). <p><i>Initiation Option 2</i></p> <ul style="list-style-type: none"> • Day 1: 600 mg orally (2 x 300-mg tablets) • Day 2: 600 mg orally (2 x 300-mg tablets) • Day 8: 300 mg orally (1 x 300-mg tablet) • Day 15: 927 mg by SQ injection (2 x 1.5 mL injections) <p><i>Maintenance Dosing</i></p> <ul style="list-style-type: none"> • 927 mg by SQ injection (2 x 1.5 mL injections) every 26 weeks +/- 2 weeks from date of last injection 	<p>No human data are available regarding placental or breast milk passage.</p> <p>Data are insufficient to assess for teratogenicity in humans. No evidence of teratogenicity in rats or rabbits.</p>	<p>June 12, 2025</p>

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
<p>INSTIs INSTIs are the viral enzyme that catalyzes the two-step process that inserts HIV DNA into the genome of the host cell.</p>				
<p>Bictegravir/Emtricitabine/Tenofovir Alafenamide (BIC/FTC/TAF) <i>Biktarvy</i></p> <p>Note: BIC is available only as part of an FDC tablet.</p>	<p>BIC/FTC/TAF (Biktarvy)</p> <ul style="list-style-type: none"> • BIC 50-mg/FTC 200 mg/TAF 25-mg tablet • BIC 30-mg/FTC 120-mg/TAF 15-mg tablet 	<p>Pregnancy</p> <p><i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> • AUC and C_{24h}/C_{trough} are decreased during the third trimester compared with postpartum, but exposures during pregnancy are well above those needed to inhibit viral replication. <p><i>Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> • No change in dose indicated <p>For guidance about use of combination products in pregnancy, please see the specific sections on other components (i.e., FTC, TAF).</p> <p>Standard Adult Doses</p> <ul style="list-style-type: none"> • One tablet of BIC 50 mg/FTC 200 mg/TAF 25 mg once daily with or without food 	<p>High placental transfer to fetus^b</p> <p>No evidence of human teratogenicity (can rule out twofold increase in overall birth defects)</p> <p>BIC can be taken with food at the same time as any preparation containing iron or calcium—including prenatal vitamins—but should not be administered within 2 hours of these preparations when taken on an empty stomach. BIC can be taken at least 2 hours before or 6 hours after antacids containing aluminum or magnesium.</p>	<p>June 12, 2025</p>
<p>Cabotegravir (CAB) <i>Vocabria (oral)</i> <i>Apretude (injection for HIV pre-exposure prophylaxis)</i></p> <p>(CAB) <i>Cabenuva</i></p> <p>Note: CAB and RPV is a two-drug co-packaged product for IM injection.</p>	<p>CAB</p> <ul style="list-style-type: none"> • CAB 30-mg tablets for oral administration • CAB 200-mg/mL suspension for IM injection <p>CAB and RPV</p> <ul style="list-style-type: none"> • CAB 200-mg/mL suspension for IM injection • RPV 300-mg/mL suspension for IM injection 	<p>Pregnancy</p> <p><i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> • No published PK studies in human pregnancy <p><i>Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> • Insufficient data to make dosing recommendations <p>For guidance about the use of combination products in pregnancy, please see the specific sections on other components (i.e., RPV).</p> <p>Standard Adult Doses</p>	<p>No human data are available regarding placental passage.</p> <p>Insufficient data to assess for teratogenicity in humans. No evidence of teratogenicity in rats or rabbits.</p>	<p>June 12, 2025</p>

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
		<p><i>Oral Lead-in Therapy (Optional)</i></p> <ul style="list-style-type: none"> • CAB (Vocabria) <ul style="list-style-type: none"> ○ One 30-mg tablet once daily in combination with RPV (Edurant) 25-mg once daily taken with a meal for 4 weeks • CAB (Apretude) <ul style="list-style-type: none"> ○ Initiation <ul style="list-style-type: none"> ▪ CAB 600-mg (3 mL) injections given 1 month apart for 2 consecutive months (on the last day of an oral lead-in, if used, or within 3 days) ○ Continuation Therapy <ul style="list-style-type: none"> ▪ CAB 600-mg (3 mL) injections every 2 months thereafter • CAB and RPV (Cabenuva) <ul style="list-style-type: none"> ○ Initiation <ul style="list-style-type: none"> ▪ CAB 600-mg (3 mL) and RPV 900-mg (3 mL), given as two separate injections in separate ventrogluteal sites for 2 consecutive months (on the last day of an oral lead-in, if used) ○ Continuation Therapy <ul style="list-style-type: none"> ▪ <i>Monthly:</i> CAB 400-mg (2 mL) and RPV 600-mg (2 mL), given as two separate injections in separate ventrogluteal sites once a month with allowance for a +/- 7-day administration window ▪ <i>Every 2 months:</i> Starting in month 4, CAB 600-mg (2 mL) and RPV 900-mg (2 mL), given as two separate injections in 		

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
		<p>separate ventrogluteal sites once a month with allowance for a +/- 7-day administration window</p> <ul style="list-style-type: none"> ▪ Patients should be monitored for approximately 10 minutes for postinjection reactions. A 23-gauge, 1.5-inch IM needle is recommended for the injection and is provided in the packaging. Longer, 2-inch needles should be used in patients with BMIs >30 kg/m². <p><i>Changing Dosing Frequency and Managing Missed Doses</i></p> <ul style="list-style-type: none"> • Refer to the package insert for instructions about changing the frequency of continuation doses and managing missed doses (see Apretude and Cabenuva) 		
<p>Dolutegravir (DTG) <i>Tivicay</i> <i>Tivicay PD</i></p> <p>(DTG/3TC) <i>Dovato</i></p> <p>(DTG/RPV) <i>Juluca</i></p> <p>(DTG/ABC/3TC) <i>Triumeq</i></p>	<p>DTG (Tivicay)</p> <ul style="list-style-type: none"> • DTG 10-mg, 25-mg, and 50-mg film-coated tablets <p>DTG (Tivicay PD)</p> <ul style="list-style-type: none"> • DTG 5-mg dispersible tablet for oral suspension <p>DTG film-coated tablets and DTG dispersible tablets are not bioequivalent and are not interchangeable.</p> <p>DTG/3TC (Dovato)</p> <ul style="list-style-type: none"> • DTG 50-mg/3TC 300-mg tablet 	<p>Pregnancy</p> <p><i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> • AUC may be decreased during the third trimester compared with postpartum, but exposures during pregnancy are well above those needed to inhibit viral replication. <p><i>Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> • No change in dose indicated. <p>For guidance about the use of combination products in pregnancy, please see the specific sections on other components (i.e., ABC, 3TC, RPV).</p> <p>Standard Adult Doses</p>	<p>High placental transfer to fetus^b</p> <p>No evidence of teratogenicity in rats or rabbits. The most recent data from Botswana indicate the prevalence of NTDs in infants born to pregnant women with HIV receiving DTG at conception is no longer statistically different than in those receiving other ARVs.</p> <p>DTG is a <i>Preferred</i> ARV drug for use during pregnancy, irrespective of trimester, and when trying to conceive (see Recommendations for Use of Antiretroviral Drugs During Pregnancy and Table 7).</p>	<p>June 12, 2025</p>

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
	<p>DTG/RPV (Juluca)</p> <ul style="list-style-type: none"> • DTG 50-mg/RPV 25-mg tablet <p>DTG/ABC/3TC (Triumeq)</p> <ul style="list-style-type: none"> • DTG 50-mg/ABC 600-mg/3TC 300-mg tablet 	<p><i>In ARV-Naive or ARV-Experienced (but INSTI-Naive) Patients</i></p> <ul style="list-style-type: none"> • DTG (Tivicay) <ul style="list-style-type: none"> ○ One 50-mg tablet once daily, without regard to food • DTG (Tivicay PD) <ul style="list-style-type: none"> ○ Six 5-mg tablets (30 mg) dissolved in water once daily, without regard to food • DTG/3TC (Dovato) <ul style="list-style-type: none"> ○ One tablet once daily, without regard to food • DTG/RPV (Juluca) <ul style="list-style-type: none"> ○ One tablet once daily, with food • DTG/ABC/3TC (Triumeq) <ul style="list-style-type: none"> ○ One tablet once daily, without regard to food <p><i>In ARV-Naive or ARV-Experienced (but INSTI-Naive) Patients Who Are Also Receiving EFV, FPV/r, TPV/r, or Rifampin</i></p> <ul style="list-style-type: none"> • DTG (Tivicay) <ul style="list-style-type: none"> ○ One 50-mg tablet twice daily, without regard to food • DTG (Tivicay PD) <ul style="list-style-type: none"> ○ Six 5-mg tablets (30 mg) dissolved in water twice daily, without regard to food <p><i>In INSTI-Experienced Patients</i></p> <ul style="list-style-type: none"> • DTG (Tivicay) <ul style="list-style-type: none"> ○ One tablet twice daily, without regard to food 	<p>To maximize DTG absorption, doses should not be administered within 2 hours of ingesting any preparation that contains such minerals as iron or calcium, including prenatal vitamins.</p>	

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
<p>Elvitegravir (EVG)</p> <p>Note: As of October 2017, the single-drug formulation of EVG (Vitekta) is no longer available.</p> <p>(EVG/c/FTC/TAF) <i>Genvoya</i></p> <p>(EVG/c/FTC/TDF) <i>Stribild</i></p>	<p>EVG/c/FTC/TAF (<i>Genvoya</i>)</p> <ul style="list-style-type: none"> EVG 150-mg/COBI 150-mg/FTC 200-mg/TAF 10-mg tablet <p>EVG/c/FTC/TDF (<i>Stribild</i>)</p> <ul style="list-style-type: none"> EVG 150-mg/COBI 150-mg/FTC 200-mg/TDF 300-mg tablet 	<p>Pregnancy</p> <p><i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> PK studies in women who received EVG/c demonstrated significant reduction in EVG plasma exposure during pregnancy. <p><i>Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> EVG plasma concentrations are reduced with use of standard adult doses during pregnancy; however, higher-than-standard doses of EVG have not been studied. Insufficient data are available to recommend a dose for use in pregnancy. <p>For guidance about use of combination products in pregnancy, please see the specific sections on other components (i.e., COBI, FTC, TAF).</p> <p>Standard Adult Doses</p> <p><i>Genvoya and Stribild</i></p> <ul style="list-style-type: none"> One tablet once daily with food 	<p>Evidence of high placental transfer of EVG and low transfer of COBI^b</p> <p>Insufficient data to assess for teratogenicity in humans. No evidence of teratogenicity in rats or rabbits.</p> <p>EVG/c is not recommended for use in pregnancy. If EVG/c is being taken when pregnancy occurs, consider frequent viral load monitoring or switching to a more effective recommended regimen. If a regimen that contains EVG/c is continued during pregnancy, doses should be administered with a meal and should not be administered within 2 hours of ingesting any preparation that contains minerals, such as iron or calcium, including prenatal vitamins.</p>	<p>June 12, 2025</p>
<p>Raltegravir (RAL)</p> <p><i>Isentress</i></p> <p><i>Isentress HD</i></p>	<p>RAL (<i>Isentress</i>)</p> <p><i>Film-Coated Tablets</i></p> <ul style="list-style-type: none"> 400 mg <p><i>Chewable Tablets</i></p> <ul style="list-style-type: none"> 25 mg 100 mg <p>RAL (<i>Isentress HD</i>)</p> <p><i>Film-Coated Tablets</i></p> <ul style="list-style-type: none"> 600 mg 	<p>Pregnancy</p> <p><i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> Decreased drug concentrations in the third trimester are not of sufficient magnitude to warrant a change in dosing. <p><i>Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> No change in dose is indicated. Once-daily dosing (i.e., two RAL 600-mg film-coated tablets) should not be used during pregnancy until more information is available. <p>Standard Adult Doses</p>	<p>High placental transfer to fetus^b</p> <p>No evidence of human teratogenicity (can rule out a 1.5-fold increase in overall birth defects)</p> <p>There is a case report of markedly elevated liver transaminases with RAL use in late pregnancy. Severe, potentially life-threatening, and fatal skin reactions and HSRs have been reported in nonpregnant adults.</p>	<p>June 12, 2025</p>

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
		<p><i>In Patients Who Are Not Receiving Rifampin</i></p> <ul style="list-style-type: none"> • RAL 400-mg film-coated tablets twice daily without regard to food • Two RAL 600-mg film-coated tablets (1,200 mg) once daily without regard to food for patients who are ARV-naïve or patients who are already virologically suppressed on an initial regimen of RAL 400 mg twice daily • Chewable tablets and oral suspension doses are not interchangeable with either film-coated tablets or each other. <p><i>In Patients Who Are Receiving Rifampin</i></p> <ul style="list-style-type: none"> • Two RAL 400-mg film-coated tablets (800 mg) twice daily without regard to food 	<p>RAL chewable tablets contain phenylalanine.</p> <p>To maximize RAL absorption, doses should not be administered within 2 hours of ingestion of any preparation containing minerals—such as iron or calcium—including prenatal vitamins.</p>	
<p>Pharmacoenhancers Pharmacoenhancers reduce the metabolism of antiretroviral drugs and prolong their presence in plasma, allowing for more convenient dosing regimens.</p>				
<p>Cobicistat (COBI) <i>Tybost</i></p> <p>(ATV/c) <i>Evotaz</i></p> <p>(EVG/c/FTC/TAF) <i>Genvoya</i></p> <p>(DRV/c) <i>Prezcobix</i></p> <p>(EVG/c/FTC/TDF) <i>Stribild</i></p> <p>(DRV/c/FTC/TAF) <i>Symtuza</i></p>	<p>COBI (Tybost) <i>Tablet</i></p> <ul style="list-style-type: none"> • COBI 150 mg <p>ATV/c (Evotaz)</p> <ul style="list-style-type: none"> • ATV 300-mg/ COBI 50-mg tablet <p>EVG/c/FTC/TAF (Genvoya)</p> <ul style="list-style-type: none"> • EVG 150-mg/ COBI 150-mg/ FTC 200-mg/ TAF 10-mg tablet <p>DRV/c (Prezcobix)</p>	<p>Pregnancy</p> <p><i>PK in Pregnancy</i></p> <ul style="list-style-type: none"> • Based on limited data, COBI exposure and its pharmaco-enhancing effect on ATV, DRV, and EVG are reduced markedly in pregnancy. • When coadministered with COBI, TAF exposure is not significantly different between pregnancy and the postpartum period. <p><i>Dosing in Pregnancy</i></p>	<p>Low placental transfer to fetus^b</p> <p>No evidence of human teratogenicity (can rule out twofold increase in overall birth defects)</p> <p>Use of COBI-boosted ATV, DRV, or EVG is not recommended in pregnancy.</p>	<p>June 12, 2025</p>

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
	<ul style="list-style-type: none"> DRV 800-mg/ COBI 150mg tablet <p>EVG/c/FTC/TDF (Stribild)</p> <ul style="list-style-type: none"> EVG 150-mg/ COBI 150-mg/ FTC 200-mg/ TDF 300-mg tablet <p>DRV/c/FTC/TAF (Symtuza)</p> <ul style="list-style-type: none"> DRV 800-mg/ COBI 150-mg/ FTC 200-mg/ TAF 10-mg tablet 	<ul style="list-style-type: none"> Although COBI exposure is reduced markedly during pregnancy, higher-than-standard doses have not been studied. The Panel recommends RTV as the preferred pharmaco-enhancer for PIs and INSTIs during pregnancy until more data are available on COBI activity during pregnancy. <p>For guidance about the use of combination products in pregnancy, please see the specific sections on other components (i.e., FTC, TAF, TDF, ATV, DRV, EVG).</p> <p>Standard Adult Doses</p> <p><i>COBI (Tybost)</i></p> <ul style="list-style-type: none"> When used as an alternative PK booster with ATV or DRV, the dose is one tablet once daily with food. <p><i>ATV/c (Evozaz)</i></p> <ul style="list-style-type: none"> One tablet once daily with food <p><i>EVG/c/FTC/TAF (Genvoya)</i></p> <ul style="list-style-type: none"> One tablet once daily with food <p><i>DRV/c (Prezcobix)</i></p> <ul style="list-style-type: none"> One tablet once daily with food <p><i>EVG/c/FTC/TDF (Stribild)</i></p> <ul style="list-style-type: none"> One tablet once daily with food <p><i>DRV/c/FTC/TAF (Symtuza)</i></p> <ul style="list-style-type: none"> One tablet once daily with food 		
<p>Ritonavir (RTV) <i>Norvir</i></p>	<p>RTV (Norvir) <i>Capsule</i></p>	<p>Pregnancy <i>PK in Pregnancy</i></p>	<p>Low placental transfer to fetus^b</p>	<p>June 12, 2025</p>

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
(LPV/r) Kaletra	<ul style="list-style-type: none"> • RTV 100 mg <i>Tablet</i> • RTV 100 mg <i>Powder</i> • RTV 100 mg/sachet <p>LPV/r (Kaletra)</p> <p><i>Tablets</i></p> <ul style="list-style-type: none"> • LPV/r 200 mg/50 mg • LPV/r 100 mg/25 mg <p><i>Oral Solution</i></p> <ul style="list-style-type: none"> • Each 5 mL contains LPV/r 400 mg/100 mg. 	<ul style="list-style-type: none"> • Lower RTV levels are seen during pregnancy than during postpartum, which may reduce the pharmaco-enhancing effect of RTV in pregnancy. <p><i>RTV Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> • No dose adjustment is necessary when RTV is used as booster. <p><i>LPV/r Dosing in Pregnancy</i></p> <ul style="list-style-type: none"> • Once-daily dosing is not recommended during pregnancy. • Some experts recommend that an increased dose (i.e., LPV/r 600 mg/ 150 mg twice daily without regard to meals or LPV/r 500 mg/125 mg twice daily without regard to meals) should be used in the second and third trimesters of pregnancy, especially in patients who are PI experienced and in those who start treatment during pregnancy with a baseline viral load >50 copies/mL. • When standard dosing is used, monitor virologic response and, if possible, LPV drug levels. <p>For guidance about use of combination products in pregnancy, please see the specific sections on other components (i.e., LPV/r).</p> <p>Standard Adult Dose of RTV (Norvir) When Used as a PK Booster for Other PIs</p> <ul style="list-style-type: none"> • RTV 100–400 mg per day in one or two divided doses (refer to other PI sections for specific dosing recommendations) <p><i>Tablet</i></p> <ul style="list-style-type: none"> • Take with food. <p><i>Capsule or Powder</i></p>	<p>No evidence of increased risk of human teratogenicity (can rule out 1.5-fold increase in overall birth defects)</p> <p>RTV should only be used as a low-dose booster for other PIs.</p> <p>LPV/r oral solution contains 42% alcohol and 15% propylene glycol and is not recommended for use in pregnancy.</p> <p>Once-daily LPV/r dosing is not recommended during pregnancy.</p>	

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

Generic Name (Abbreviation) Trade Name	Formulation	Dosing Recommendations ^a	Use in Pregnancy	Last Reviewed
		<ul style="list-style-type: none"> • To improve tolerability, take with food, if possible. <p>Standard Adult Doses of LPV/r (Kaletra)</p> <ul style="list-style-type: none"> • LPV/r 400 mg/100 mg twice daily, <i>or</i> • LPV/r 800 mg/200 mg once daily <p><i>Tablet</i></p> <ul style="list-style-type: none"> • Take without regard to food. <p><i>Oral Solution</i></p> <ul style="list-style-type: none"> • Take with food. <p>With EFV or NVP in PI-Naive or PI-Experienced Patients</p> <ul style="list-style-type: none"> • LPV/r 500-mg/125-mg tablets twice daily without regard to meals (use a combination of two LPV/r 200-mg/50-mg tablets and one LPV/r 100-mg/25-mg tablet), <i>or</i> • LPV/r 520-mg/130-mg oral solution (6.5 mL) twice daily with food 		

^a Individual ARV drug doses may need to be adjusted in patients with renal or hepatic insufficiency (for details, see the [Adult and Adolescent Antiretroviral Guidelines, Appendix B](#)).

^b Placental transfer categories are determined by mean or median cord blood-to-maternal delivery plasma drug ratio:

High: >0.6

Moderate: 0.3–0.6

Low: <0.3

^c Generic product available

^d As of June 2023, Atripla brand products are no longer available.

Key: 3TC = lamivudine; ABC = abacavir; ART = antiretroviral therapy; ARV = antiretroviral; ATV = atazanavir; ATV/c = atazanavir/cobicistat; ATV/r = atazanavir/ritonavir; AUC = area under the curve; BIC = bictegravir; BMI = body mass index; C_{24h} = concentrations at 24 hours postdose; CAB = cabotegravir; CD4 = CD4 T lymphocyte; COBI = cobicistat; CYP = cytochrome P; DOR = doravirine; DRV = darunavir; DRV/c = darunavir/cobicistat; DRV/r = darunavir/ritonavir; DTG = dolutegravir; EFV = efavirenz; ETR = etravirine; EVG = elvitegravir; EVG/c = elvitegravir/cobicistat; FDA = U.S. Food and Drug Administration; FDC = fixed-dose combination; FPV/r = fosamprenavir/ritonavir; FTC = emtricitabine; FTR = fostemsavir; HBV = hepatitis b virus; HSR = hypersensitivity reaction; IBA = ibalizumab; IM = intramuscular; INSTI = integrase strand transfer inhibitor; IV = intravenous; LEN = lenacapavir; *Recommendations for the Use of Antiretroviral Drugs During Pregnancy and Interventions to Reduce Perinatal HIV Transmission in the United States*

Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy

LPV = lopinavir; LPV/r = lopinavir/ritonavir; MVC = maraviroc; NNRTI = non-nucleoside reverse transcriptase inhibitor; NRTI = nucleoside reverse transcriptase inhibitor; NTD = neural tube defect; NVP = nevirapine; PI = protease inhibitor; PK = pharmacokinetic; PPI = proton pump inhibitor; RAL = raltegravir; RPV = rilpivirine; RTV = ritonavir; SQ = subcutaneous; TAF = tenofovir alafenamide; TDF = tenofovir disoproxil fumarate; TPV = tipranavir; TPV/r = tipranavir/ritonavir; WHO = World Health Organization; ZDV = zidovudine