ANTEPARTUM HIV CARE

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Panel's Recommendations
• In addition to the standard antepartum assessments during pregnancy, the initial evaluation should include an assessment of HIV disease status and recommendations for HIV-related medical care **(AI).** See Initial Evaluation and Continued Monitoring of HIV-Related Assessments During Pregnancy and Table 4. HIV-Related Antepartum Screenings and Assessments During Pregnancy for the recommended schedule of HIV-related laboratory tests during pregnancy. • If clinically indicated, amniocentesis may be performed during pregnancy with HIV after thorough patient-centered counseling about the risks, benefits, and alternatives. o An effective antiretroviral (ARV) regimen should be used during pregnancy, ideally ensuring undetectable HIV RNA levels **(BIII).** o For pregnancies where HIV RNA levels are detectable and amniocentesis is required, consultation with an expert in the management of HIV during pregnancy should be considered **(BIII).** o Data are inadequate to guide decision-making about other invasive diagnostic or therapeutic procedures; an individualized process of shared decision-making is recommended. • Counseling for HIV care during pregnancy and postpartum should address the known benefits and potential risks of all medications, including ARV drugs. Counseling about the importance of adherence should be addressed at each visit **(AIII).** • Coordination of services among prenatal care providers, primary care, HIV specialty care providers, and, when appropriate, mental health and substance use disorder treatment services, intimate partner violence support services, and public assistance programs are essential to care and enable adherence to ARV therapy **(AII).** • During pregnancy, providers should initiate counseling about key intrapartum and postpartum considerations, including mode of delivery, lifelong HIV therapy, family planning and contraceptive options, infant feeding, infant ARV prophylaxis, and timing of infant diagnostic testing **(AIII).**
Rating of Recommendations: *A = Strong; B = Moderate; C = Optional* ***Rating of Evidence:*** *I = One or more randomized trials with clinical outcomes and/or validated laboratory endpoints; II = One or more well-designed, nonrandomized trials or observational cohort studies with long-term clinical outcomes; III = Expert opinion*

In addition to the standard antepartum assessments during pregnancy, initial evaluation in the context of HIV should include an assessment of HIV disease status and recommendations for HIV-related medical care (see Recommendations for the Use of Antiretroviral Drugs During Pregnancy: Overview). See Initial Evaluation and Continued Monitoring of HIV During Pregnancy and Laboratory Testing for Initial Assessment and Monitoring of People With HIV Receiving Antiretroviral Therapy for the recommended schedule of HIV-related laboratory tests during pregnancy. Initial assessment and ongoing care during pregnancy with HIV should include the following items (see Table 4. HIV-Related Antepartum Screenings and Assessments During Pregnancy):

- Current and prior antiretroviral (ARV) drug use and experience with adverse events or toxicities. Counseling should also address prior or anticipated challenges with adherence;
- Complete blood cell count and renal and liver function testing;

- HLA-B*5701 testing, if the use of abacavir is anticipated (see Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy);
- Current CD4 T lymphocyte (CD4) cell count;
- Current plasma HIV RNA level;
- HIV genotype, if the patient is not on treatment or if viremia is present;
- Review of prior HIV-related illnesses and past CD4 counts and plasma HIV RNA levels;
- Assessment of the need for prophylaxis against opportunistic infections, such as *Pneumocystis jirovecii* pneumonia (see the Adult and Adolescent Opportunistic Infections Guidelines);
- Screening for hepatitis A virus (HAV), hepatitis B virus (HBV), hepatitis C virus (HCV), and tuberculosis. Screening for HBV and HCV are discussed in Hepatitis B Virus/HIV Coinfection and Hepatitis C Virus/HIV Coinfection. During pregnancy, if the HAV vaccine series has not already been received, screening for HAV immunity should be performed using antibody testing;
- Screening for and treatment of sexually transmitted infections (STIs), including syphilis, *Chlamydia trachomatis*, *Trichomonas vaginalis*, and *Neisseria gonorrhea*[1-4];
- Repeat STI testing in the third trimester (ideally at 28–32 weeks of gestation) may be indicated based on individual risk factors or as required by state laws or health department recommendations. Many disparities exist in receipt of repeat STI testing,[5] and risk factor–based screening may be inadequate. Given the rise in congenital syphilis cases, universal repeat screening may be an effective strategy to prevent congenital syphilis and the sequelae of other STIs.[6] The Panel on Treatment of HIV During Pregnancy and Prevention of Perinatal Transmission supports the 2024 American College of Obstetricians and Gynecologists (ACOG) Practice Advisory recommending syphilis testing at three points: initiation of prenatal care, third trimester, and presentation for delivery;
- Assessment of the need for HAV, HBV, influenza, pneumococcus, Tdap (tetanus, diphtheria, acellular pertussis), or SARS-CoV-2 immunizations (including boosters). Counseling on the importance of vaccinations during all pregnancies, and specifically during pregnancies with HIV, should be addressed and vaccinations provided when indicated[7-10]; evidence suggests receipt of recommended routine antenatal vaccinations among pregnant women with HIV is low.[11] Consideration of other vaccinations, such as for meningococcus, may be warranted based on individual patient considerations. Human papillomavirus vaccination may be indicated postpartum if not previously vaccinated. In the context of pregnancy, individuals with HIV who have not received the HAV vaccine series and who are not immune to HAV (by antibody testing) should receive the HAV vaccine series. Protection from HAV is especially important for individuals with chronic HBV or chronic HCV, who have an added risk of hepatic decompensation from acute infection with HAV;
- Screening for depression and anxiety (see Screening and Diagnosis of Mental Health Conditions During Pregnancy and Postpartum), as well as for substance use disorders, and referral for mental health care services if indicated[12];
- Assessment of the need for supportive care (e.g., social services, mental health services, substance use disorder treatment services, smoking cessation services, other community-based resources) for pregnancy-specific needs, as well as to help ensure lifelong adherence to antiretroviral therapy (ART). Peer support educational programs may be particularly beneficial and acceptable[13];
- Screening for intimate partner violence (IPV) and assessment of the need for referrals for supportive care;

- Assessment of testosterone or other hormonal medications[14,15];
- Assessment of the HIV status of sexual partner(s) and referral of partner(s) for HIV testing and ART or prophylaxis as needed (see Pre-exposure Prophylaxis [PrEP] to Prevent HIV During Periconception, Antepartum, and Postpartum Periods);
- Referral of children for HIV testing if HIV status is unknown; *and*
- Counseling about key intrapartum and postpartum considerations, including mode of birth, lifelong HIV therapy, family planning and contraceptive options, infant feeding choices, infant ARV prophylaxis, and timing of infant diagnostic testing.

Prenatal Screening, Diagnosis, and Therapy

According to ACOG, prenatal genetic screening and diagnostic testing options should be discussed and offered for all pregnancies, regardless of age or risk of chromosomal abnormality. After review and discussion, every patient has the right to pursue or decline prenatal genetic screening and diagnostic testing.[16] Prenatal screening for aneuploidy should be offered using noninvasive methods with high sensitivity and low false-positive rates, as recommended by ACOG. Counseling on noninvasive genetic screening options is no different for people with HIV than for those without HIV. Noninvasive screening can be accomplished using either of the following:

- Cell-free DNA screening with or without nuchal translucency; *or*
- Serum analyte screening alone or combined with nuchal translucency (sequential or integrated).

When there is desire for diagnostic testing during pregnancy (e.g., abnormal ultrasound or aneuploidy screening) counseling should be provided about the potential risk of perinatal HIV transmission, along with other risks of the procedure, so that informed decisions can be made about invasive testing. Although the data on women who are receiving ART are limited, the risk of perinatal HIV transmission does not appear to increase with the use of amniocentesis or other invasive diagnostic procedures in women who have virologic suppression on ART.[17,18] This is in contrast to the era before effective ART, during which invasive procedures, such as amniocentesis and chorionic villus sampling, were associated with a twofold to fourfold increase in the risk of perinatal transmission of HIV.[19-22] Although no transmissions occurred among 159 reported cases of amniocentesis or other invasive diagnostic procedures performed in women who were on effective ART, a small increase in the risk of transmission cannot be ruled out.[23-26]

It should be recommended that patients receive effective ART before undergoing invasive prenatal testing. Patients ideally should have undetectable HIV RNA levels at the time of the procedure. Patients should be referred to maternal–fetal medicine experts for counseling about diagnostic testing risks and benefits in the context of the patient's viral load. When performing an amniocentesis, care should be taken to try to avoid the placenta. Families often make complex personal decisions about continuing a pregnancy after a prenatal diagnosis, and those decisions are made even more complex by evolving state laws regarding access to abortion. A patient-centered discussion regarding delaying diagnostic procedures to allow for viral suppression should also consider the impact of that delay on the options available to a patient for terminating a pregnancy, if that is something they are considering. If a patient with detectable HIV RNA levels desires invasive prenatal testing, consultation with an expert in the management of HIV during pregnancy should be considered (see Intrapartum HIV Care).

Fetal therapy is an area of maternal–fetal medicine in which insufficient data exist about the risk of HIV transmission through such procedures as selective fetoscopic laser photocoagulation, vesicoamniotic or thoracoamniotic shunts, intrauterine transfusions, *in utero* repair of neural tube

defects, and other invasive procedures. In the absence of evidence to guide these decisions, it is recommended that patients with HIV who may require advanced care for fetal abnormalities receive consultation at specialized centers where they can receive coordinated, multidisciplinary counseling. As with the above discussion regarding prenatal diagnosis, it is recommended that individuals have achieved viral suppression prior to procedures. Patients should not be denied the opportunity for referral or counseling about these procedures due to their HIV status.

The National Perinatal HIV Hotline

The National Clinical Consultation Center Perinatal HIV hotline (1-888-448-8765) is a federally funded service that provides free clinical consultation to providers managing HIV care during pregnancy and infancy.

ART Adherence Support During Pregnancy

In general, the recommendations for the use of ART during pregnancy are the same as for nonpregnant adults. However, the Perinatal Guidelines do differ from the Adult and Adolescent Antiretroviral Guidelines in some instances where regimen selection has been modified based on concerns about specific drugs or limited experience with newer drugs during pregnancy (see Table 6. What to Start: Initial Antiretroviral Regimens During Pregnancy When Antiretroviral Therapy Has Never Been Received, Table 7. Situation-Specific Recommendations for Use of Antiretroviral Drugs During Pregnancy and When Trying to Conceive, and Recommendations for Use of Antiretroviral Drugs During Pregnancy: Overview).

Clinicians and patients should discuss the substantial benefits of ARV drugs for optimal health during pregnancy and for reducing the risk of perinatal HIV transmission; this helps put the potential risks of using these drugs into perspective (see Table 14. Antiretroviral Drug Use in Pregnancy: Pharmacokinetic and Toxicity Data in Human Pregnancy and Recommendations for Use in Pregnancy and Appendix B: Supplement: Safety and Toxicity of Individual Antiretroviral Agents in Pregnancy). Counseling of patients about ARV drug use should be directive and noncoercive, and providers should help patients make informed decisions regarding the use of ARV drugs.

Counseling about regimens should include information about the following:

- The risk of HIV disease progression and the benefits and risks of ART for maternal health during pregnancy[27];
- The benefits of ART for preventing perinatal transmission of HIV[28];
- The benefits of using ART to achieve and maintain viral suppression, which reduces the risk of sexual transmission of HIV to partners who do not have HIV[29];
- The need for strict adherence to the prescribed ARV drug regimen to avoid drug resistance, optimize health outcomes, and minimize the risk of perinatal HIV transmission;
- The potential adverse effects of ARV drugs during pregnancy, their impact on fetuses and infants, and potential interactions with other medications the patient may already be receiving (see Recommendations for Use of Antiretroviral Drugs During Pregnancy: Overview)[30-33];
- The limited long-term outcome data for infants who were exposed to ARV drugs *in utero*, especially for newer ARV drugs; *and*
- The importance of considering pregnancy-specific challenges to adherence, such as nausea and vomiting or adverse social determinants of health. Patients should be advised to remain in close communication with their providers about these challenges.

Counseling at the onset of antepartum care and at each subsequent visit should emphasize the importance of adherence to the ARV drug regimen to minimize the development of resistance and support the effectiveness of ART in achieving viral suppression. Patients with poor adherence during pregnancy are more likely to have detectable viral loads at delivery.[34] In addition, multiple adverse social determinants of health—including housing instability,[35] nondisclosure of HIV status,[36,37] lack of social support,[38] stigma and limited self-efficacy,[39] exposure to IPV,[40] and other factors—are known to affect adherence to both maternal and neonatal medication regimens. As a result, adherence counseling should include careful attention to the patient's social needs, social support, and mental health.

Patient Counseling and Coordination of Care

Coordination of services among antepartum care providers, primary care and HIV specialty care providers, mental health and substance use disorder treatment services, social services, and public assistance programs is essential to ensure comprehensive support for HIV care during all stages of pregnancy and the postpartum period. Medical care during pregnancy with HIV requires coordination and communication between HIV specialists and obstetric providers.

Anticipatory guidance provided during pregnancy in the context of HIV is generally similar to counseling that is recommended without HIV.[41] However, HIV-specific antepartum counseling should include current knowledge about risk factors for perinatal HIV transmission. Risk of perinatal transmission of HIV has been associated with potentially modifiable factors, including tobacco use, substance use disorders, alcohol consumption, and genital tract infections. In addition to improving maternal and fetal health, cessation of tobacco and drug use and treatment of STIs and other genital tract infections may reduce the risk of perinatal transmission. Other risk factors for ART nonadherence, such as housing instability, food insecurity, mental health disorders,[42] and IPV,[43] also require particular attention for patients with HIV. Patients should be screened for mental health conditions, assessed for the risk of IPV, and counseled about disclosure of their HIV status when needed.[44]

Fears of stigma and violence that could result from undesired HIV status disclosure require comprehensive, culturally informed services to assist planned disclosure of HIV status during pregnancy and postpartum,[45,46] and to ensure privacy during health care encounters (including telemedicine visits and in-person care) when HIV status has not yet been disclosed.[47] The use of testosterone or less common forms of self-expression may present specific concerns and needs for added support related to receiving services in settings designed for the care of pregnant women.

In addition, providers should counsel patients with HIV about what to expect during labor, delivery, and the postpartum period. This counseling should include discussing the mode of delivery and the possible use of intrapartum zidovudine, as well as unique disclosure circumstances that may occur in the context of intrapartum care. Guidance must also address reproductive choice and postpartum contraceptive options. Providers also should discuss the possibility of simplifying a patient's ARV regimen after giving birth, which can help promote long-term adherence to ART; potential transition to a complete long-acting injectable regimen after pregnancy may be important to discuss in the antenatal period. Discussions regarding the prevention of postnatal transmission to the neonate also should include recommendations about infant feeding, neonatal ARV prophylaxis, infant diagnostic HIV testing, and the avoidance of premastication of food (see Preventing HIV Transmission During Infant Feeding). Anticipatory guidance about postpartum care also must include plans for transitioning health care from the obstetric team to the long-term health care team.

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., *Pneumocystis jirovecii* 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, *Chlamydia trachomatis*, *Trichomonas vaginalis*, *Neisseria gonorrhea*)	✓		✓[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 T lymphocyte cell 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 Guidelines for the Prevention and Treatment of Opportunistic Infections in Adults and Adolescents With HIV, 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 performed 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

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