HIV/AIDS—Prenatal Care for HIV+ Mothers

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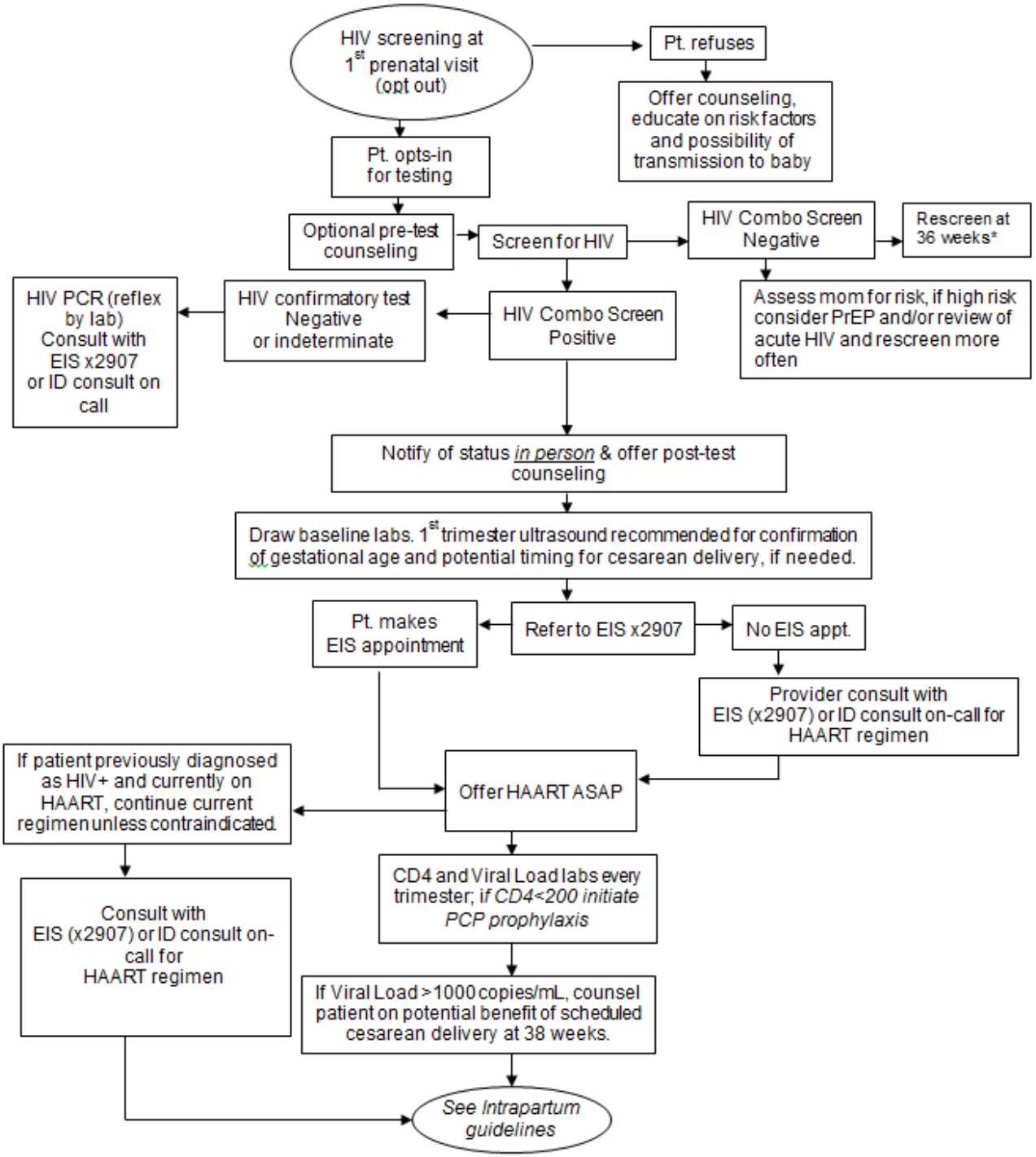
This guideline is designed for general use for most adult patients, but may need to be adapted to meet the special needs of a specific patient as determined by the patient's provider.

Algorithm for Prenatal HIV Screening & Care (Antepartum)



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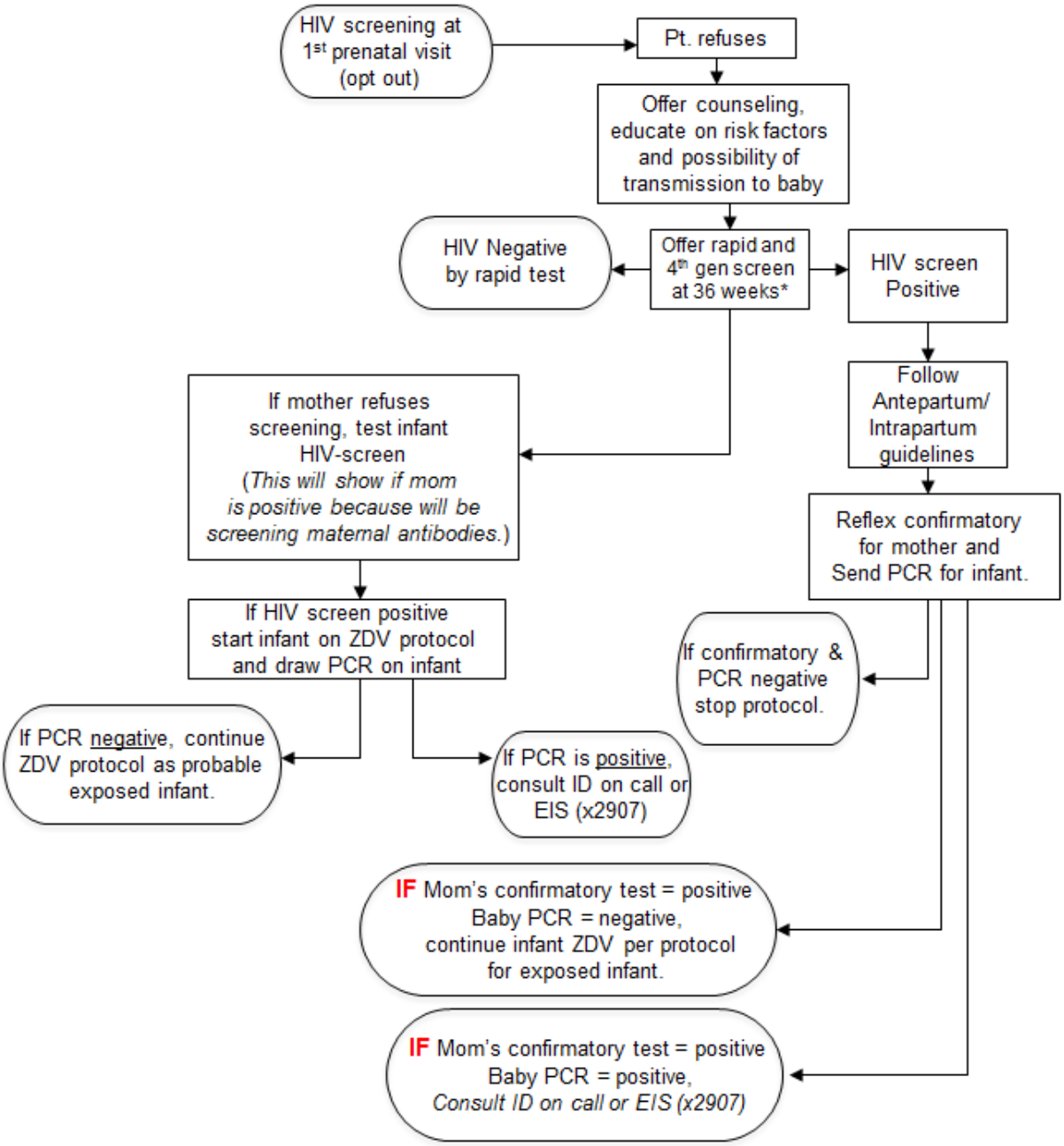
**ANMC has decided to rescreen all pregnant women at 36 weeks for HIV, Gonorrhea, and Chlamydia.*

Algorithm for Prenatal HIV Screening & Care (Mother refuses screen)



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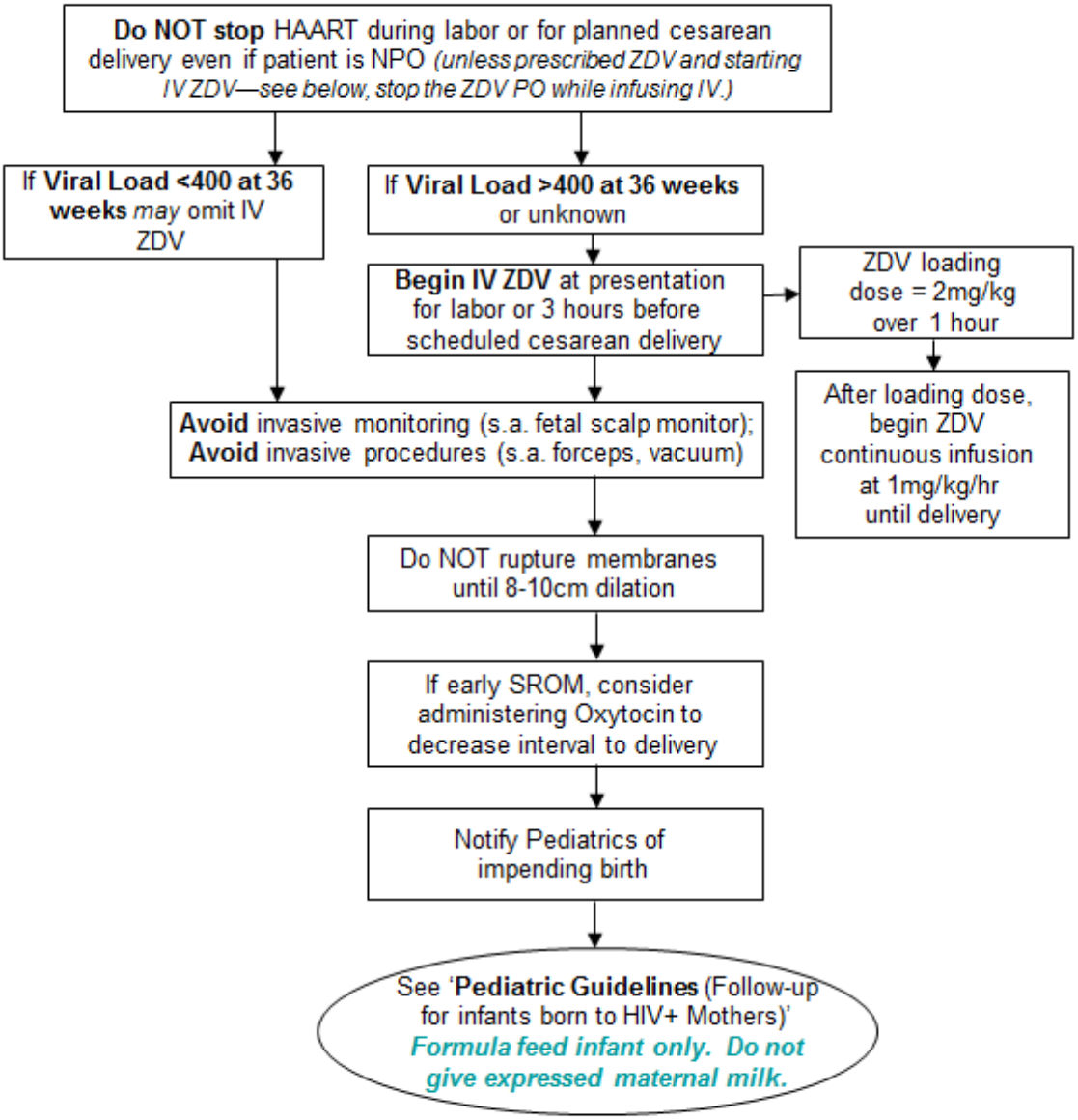
Algorithm for Intrapartum Care



Notes:

1. *Wash infant before any invasive procedures—Vitamin K shot, Hepatitis B vaccine, blood draw, etc.*
2. If resuscitation is required, take all possible precautions to protect infant from infection. After resuscitation, contact the EIS program (x2907) or the Perinatal Hotline at 1-888-448-8765 for medication recommendations.
3. Mother *should not* masticate food in future when infant ready for solids.

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4. Prenatal Care for HIV+ Mothers

Refer to: (http://aidsinfo.nih.gov, select Guidelines, then select Perinatal Guidelines)[4] for continuously updated guidelines

The National Perinatal HIV Hotline is a federally funded service providing free clinical consultation to providers caring for HIV-infected women and their infants. ***The National Perinatal HIV Hotline (1-888-448-8765)***

a. Background

Heterosexual contact is responsible for 90% of HIV transmission in the United States for women younger than 25 years.[1] Management of HIV infection during pregnancy centers on maintaining the health of the mother and preventing transmission to her child. The American College of Obstetricians and Gynecologists (ACOG) recommends that OB/GYN providers routinely screen all women between the ages of 19 and 64 for HIV, regardless of their pregnancy status or risk factors. They also recommend targeted screening for women outside this age range who are at high risk. High risk is defined as injection drug users, sexual partners with a drug user or someone infected with HIV, exchanging sex for money, diagnosis of another STD in the past year and having more than one sex partner since their last HIV screening test.[2]

The ACOG also encourages "opt out" testing, in which patients are told that HIV tests will be given as part of routine care unless they decline. Neither written informed consent nor prevention counseling is required in Alaska with opt-out testing. It is important that the woman be aware that HIV and AIDS are both name based reportable diseases in Alaska.

b. Testing and Referral:

1. All women should be screened for HIV as early as possible in their pregnancy.[3] The HIV test is administered as 'opt out'. All clients are tested unless they specifically choose not to be tested. If the HIV test is preliminary positive, the lab automatically confirms the test. ANMC and the Alaska State Lab are using the 4th generation HIV screening test which has an automatic confirmation algorithm for preliminary positive results.

2. After review of the CDC 2015 Sexually Transmitted Diseases Treatment Guidelines and OB/GYN departmental discussion, the ANMC STD Guidelines includes third trimester screening for Chlamydia, gonorrhea and HIV. Consider extragenital testing as indicated

3. Repeat HIV screening in the third trimester is recommended by ACOG for women:

- diagnosed with another STD in the last year
- who are injection drug users or exchanging sex for money
- who have a new or multiple sex partners during the pregnancy or a partner known to be HIV positive
- live in areas of high HIV prevalence defined as one HIV infected pregnant woman per 1,000 tested
- declined to be tested earlier in the pregnancy.[3]
- who are under 19 years of age and are sexually active[1]
- who present in labor with unknown HIV status, or a high-risk woman who presents with no 3rd trimester test, should be screened with a rapid HIV test and screen in Labor and Delivery. If the test is a preliminary positive, intrapartum treatment for the mother and prophylaxis with ZDV for the infant should not be delayed in awaiting a confirmatory test. Breast feeding should be delayed until result of confirmatory test is available.

c. Newly Diagnosed HIV in pregnancy:

1. As soon as a patient is confirmed positive, they should be referred to the Early Intervention Services (EIS) clinic by contacting an EIS Case Manager at 729-2907 or 729-4209 Call 729-2907 to schedule an appointment with EIS/ ID.

2. Baseline labs: Laboratory data including CD4 count (lymphocyte subset panel 4), viral load (HIV PCR), HIV genotyping, fasting lipids and glucose, comprehensive chemistry panel, CBC, Toxoplasmosis IgG, CMV IgG, RPR, and chronic hepatitis screening for A, B and C, should be drawn 1 week prior to EIS appointment if possible. Aptima for GC/CT/Trich should be obtained. A QuantiFERON should be drawn if no history of prior tuberculosis infection,

3 Antiretroviral Pregnancy Registry:
All women who are seen in the EIS clinic will have anonymous entry into the Antiretroviral Pregnancy Registry as recommended by the Perinatal Guidelines.[4] This international registry is designed to follow the pregnancies and infants born of these pregnancies to determine if there are detrimental effects of antiretroviral therapy on the health and well-being of the pregnancies or the infants born.

Each patient will be given an anonymous registry number through the 1-800-258-4263 Antiretroviral Pregnancy Registry. EIS will be responsible for the birth outcome follow-up sent to the Registry.

4. Invasive antenatal procedures
If chorionic villus sampling, cordocentesis or amniocentesis is necessary, it should be performed only after the HIV positive woman has been on combination antiretroviral therapy and ideally

when the viral load has been determined to be <20. Of note is that no transmissions of HIV to a fetus from these procedures have been recorded in patients on HAART, but a small risk of transmission cannot be ruled out. Some experts view chorionic villus sampling and cordocentesis as too risky and suggest limiting procedures to amniocentesis. In those women without the benefit of HAART, there is a clear increased risk of transmission from mother to fetus. [4]

d. Anti-retroviral Therapy Guidelines for Obstetric Management of HIV

1. Use of ARV therapy in prevention of perinatal HIV transmission: Combination drug therapy, Highly Active Anti-Retroviral Therapy (HAART) is the current standard of care for both the treatment of HIV infection and the prevention of perinatal HIV transmission. Antiretroviral (ARV) drugs reduce perinatal transmission by several mechanisms including lowering maternal antepartum viral load, and pre- and post-exposure prophylaxis of the infant. Through the use of the antiretroviral therapy after the first trimester, in addition to the intrapartum Zidovudine (Retrovir or ZDV) regimen (if indicated) and infant ZDV protocol, the possibility of mother to infant transmission is reduced from approximately 25% to less than 2%. Using this strategy, there are less than 200 HIV infected infants born in the United States each year. These infected infants are generally born to mothers who had primary HIV infection during the pregnancy, women who breastfed their infants, had poor adherence to antiretrovirals, delayed or no prenatal care and lack of universal prenatal HIV counseling and testing. Therefore, for prevention of perinatal HIV transmission, in addition to screening, combined antepartum, intrapartum and infant antiretroviral prophylaxis is recommended.[4]

   Known benefits and potential risks of antiretroviral use during pregnancy should be discussed with all HIV positive pregnant women. Review the pros and cons of antiretroviral therapy in treatment naïve patients in the *Initiating Antiretroviral Therapy in Treatment –Naïve Patients* section of the DHHS Antiretroviral Guidelines for Adults and Adolescents.[5]

Discussions with women about initiation of ARV drug regimens should include information about[4]:

a. maternal risk of disease progression and the benefits and risks of initiation of therapy for maternal health;
b. benefit of combination ARV regimens for preventing perinatal transmission of HIV;
c. benefits of therapy for reducing sexual transmission to discordant partners when viral suppression is maintained;
d. potential adverse effects of ARV drugs for mothers, fetuses, and infants, including potential interactions with other medications the women may already be receiving;
e. the limited long-term outcome data for both women who temporarily use ARV drugs during pregnancy for prophylaxis of transmission and infants with *in utero* drug exposure; and
f. the need for strict adherence to the prescribed drug regimen to avoid resistance.

Pregnant women should make an informed choice, after counseling and discussion, on whether to take antiretroviral drugs for prevention of mother-to-child transmission or to follow other medical recommendations intended to decrease perinatal HIV transmission. This choice should be respected.

2. **Antepartum:**

Since controlled viral load has been shown to be the most important factor in decreased transmission of HIV to a fetus/neonate, the focus of the guidelines is to promote adherence and tolerability of an HIV ARV regimen.

A. Combination HAART should be discussed and initiated asap during the first trimester for all HIV positive pregnant patients regardless of their clinical, immunologic, or virologic status.

B. Combination ARV regimens should include a dual nucleoside reverse transcriptase inhibitor (NRTI) backbone that has one or more NRTI's with high levels of transplacental passage. Acceptable combinations from the guidelines would include the preferred Combivir (ZDV+3TC) or Truvada (TDF+FTC) or Epzicom (Abacavir+3TC) ONLY IF HLA B5701 negative.[4] A second class of ARV is added to the regimen and may include the preferred combination drugs Atazanavir 400 mg (ATV, Reyataz dose increased in pregnancy) plus Ritonavir (RTV, Norvir) or darunavir (DRV, Prezista- BID in pregnancy) + ritonavir. Or raltegravir (Isentress- BID regimen).

C. **Clients not on HAART**: If the HIV RNA bDNA (viral load) is >500 copies/mL, HIV resistance/genotypic testing is recommended for all pregnant women. Start boosted PI plus dual NRTI asap, prior to receiving genotype results.

If HIV is diagnosed later in pregnancy, HAART therapy should be initiated promptly without waiting for results of resistance testing.[4]

Efavirenz (Sustiva, EFV) is not recommended during the first trimester of pregnancy nor in women who may become pregnant due to the possibility of neural tube defects, thus it should not be prescribed to patients who may become pregnant. Non-pregnant women of childbearing potential should undergo pregnancy testing before initiation of EFV and receive counseling about the potential risk to the fetus and desirability of avoiding pregnancy while on Efavirenz-containing regimens.[4] If woman is already on efavirenz and it is discovered after 8 weeks, continue.

D. **Clients already on HAART**: If HIV is controlled with an Undetectable or <20 viral load using HIV RNA PCR and the regimen is well tolerated, women who are already taking HAART should be continued on their current regimen unless contraindicated.

Resistance testing should be done in women who are on HAART but do not have full viral suppression (HIV RNA levels >500 copies/mL) to select a new regimen with a greater likelihood of suppressing viral replication to undetectable levels. It should also be considered when HIV RNA levels <500 copies/mL though it may be unsuccessful.[4]

Recent studies show that because most women are not aware they are pregnant until 4-6 weeks into their pregnancy and the risk of neural tube defects with Efavirenz are restricted to the first 5-6 weeks, the benefit of suppressed viral load is greater than the risk. Thus, if a patient is already receiving EFV as part of their current regimen, the regimen should be continued provided that it is resulting in virologic suppression.[4]

Many experts would recommend a second trimester ultrasound to assess fetal anatomy in women who were on HAART in their first trimester, particularly those who had been taking EFV at the time of conception.[4]

In pregnant women, as in non-pregnant adults, a combination ARV treatment (cART) regimen with at least three agents is recommended.

A cART regimen including two NRTIs combined with a PI with low-dose ritonavir or an NNRTI or an integrase inhibitor is preferable.

1. The preferred regimens for pregnant women are[4]:

A Two-NRTI Backbone:

Combivir (Zidovudine + Lamivudine) one tablet twice a day

OR

Truvada (Tenofovir + Emtricitabine) one tablet daily

OR

Epzicom (Abacavir + Lamivudine) one tablet daily *only if HLA-B*5701 negative*

PLUS

A Boosted Protease Inhibitor:

Atazanavir (ATV) 300 mg once daily plus Ritonavir (RTV) 100 mg once daily. Some (most) experts recommend prescribing ATV 400 mg plus RTV 100 mg once daily in all pregnant women in the 2nd and 3rd trimesters.

OR

Darunavir (DRV) 600 mg twice a day plus ritonavir (RTV) 100 mg twice a day

OR

An Integrase Inhibitor:
Raltegravir (RAL) 400 mg twice a day

OR

An NNRTI: (after 8 weeks)
Efavirenz (EFV) 600 mg once daily

2. Refer to the Perinatal ARV Drug Use Chart[4] online or the Antiretroviral Therapy in Pregnancy chart below for additional information and alternative regimens. Call 729-2907 for regimen consultation. (See Appendix A for alternative regimens).

Preferred Two-NRTI Backbone	
Combivir (ZDV+3TC)	Combivir 1 tablet BID Increased potential for hematologic toxicities
Truvada (TDF+FTC)	Truvada 1 tablet daily Potential for renal toxicity
Epzicom (ABC*+3TC)	Epzicom 1 tablet daily *Only if HLA-B*5701 negative; ABC/3TC with ATV/r or with EFV is not recommended if pretreatment HIV RNA>100,000 copies/mL
Preferred PI Regimens	
Atazanavir + Ritonavir (ATV/r) *Plus a Preferred Two-NRTI Backbone*	ATV 300 mg daily + RTV 100 mg daily Most experts recommend ATV 400 mg daily plus RTV 100 mg once daily in 2nd and 3rd trimesters. Avoid proton pump inhibitors and H2 blockers. May see increase in bilirubin.
Darunavir + Ritonavir (DRV/r) *Plus a Preferred Two-NRTI Backbone*	DRV 600 mg BID + RTV 100mg BID
Preferred Integrase Inhibitor Regimen	
Raltegravir (RAL) *Plus a Preferred Two-NRTI Backbone*	RAL 400 mg BID
Preferred NNRTI Regimen	
Efavirenz (EFV) *Plus a Preferred Two-NRTI Backbone*	May be initiated **after the first 8 weeks of pregnancy**; preferred in women who require drugs with significant interactions with PIs or the convenience of single tablet daily regimen

E. **Contraindications to ART & other Medications:**

a. DHHS guidelines recommend avoiding treatment with Efavirenz during the 8 weeks of pregnancy because it has been found to cause neural tube defects in clinical studies (see discussion in section 'Clients already on HAART' above).[4]

b. Women with CD4 **>**250 cells/mm^3 have increased risk of developing symptomatic, often rash-associated, nevirapine-related hepatotoxicity which can be severe, life-threatening, and in some cases fatal. ACOG recommends that nevirapine be avoided during pregnancy due to hepatotoxicity.[4] The Public Health Service Task Force recommends that nevirapine only be used as a component of a combination regimen when ART is initiated in women with

CD4<250. Women who enter pregnancy on nevirapine and are tolerating it well may continue regardless of their CD4 count.[4]

F. **Labs after HAART initiation**[4]:
   ii. Two weeks after HAART initiation or regimen change: CBC, comprehensive chemistry including liver and renal function tests, and a urinalysis
   iii. One month after initiation: CD4 and viral load, CBC and chemistry panel should be done to determine efficacy of meds and possible side effects
   iv. Viral load and CD4: monthly until undetectable and then every 3 months during pregnancy to determine need for alterations in current regimen or need for initiation of PCP prophylaxis (if CD4 <200 cells/mm^3) or Mycobacterium avium prophylaxis (CD4 <50 cells/mm^3) and at 34-36 weeks gestation to inform decisions about delivery.
   v. Labs should be done more frequently if viral suppression is not achieved or HAART compliance is a concern. If viral suppression is not achieved within 12 weeks of HAART initiation, consult EIS/ID (x2907).

3. **Intrapartum**:

a. Intrapartum intravenous ZDV is recommended for HIV infected pregnant women with Viral Load >1000 copies/mL at 36 weeks regardless of their antepartum regimen.[4] If women did *not* receive antepartum ARV medications, intrapartum ZDV combined with infant ZDV prophylaxis should be given to reduce the risk of perinatal transmission from 20-30% to 9%. If ZDV was discontinued secondary to anemia, it can still be safely administered during the intrapartum period.

b. HAART therapy should not be stopped during labor or for planned cesarean delivery even if the patient is NPO. Give oral dosing of prescribed ARV regimen except ZDV if patient is receiving IV ZDV. If taking Stavudine (d4T) as part of antepartum regimen, d4T should be stopped during labor while ZDV is being administered (see below for ZDV intravenous guidelines).[4]

c. Begin intravenous ZDV at presentation for labor or 3 hours before scheduled cesarean delivery. Loading dose is 2mg/kg over 1 hour. After loading dose, begin continuous infusion of 1mg/kg/hr until delivery.[4]

d. If rapid HIV test is done in L&D and result is positive, initiate intravenous ZDV without waiting for results of confirmatory test.

Also, initiate infant prophylactic ZDV regimen per the neonatal protocol below. If postpartum confirmatory test is positive, continue infant ZDV per guidelines below, *and consult EIS/ID (ext. 2907)*. If negative, stop infant ZDV.

5. Route of Delivery:

a. Cesarean Delivery: Women infected with HIV who have viral loads >1,000 copies/mL should have a scheduled cesarean delivery at 38-39 weeks' gestation to minimize perinatal transmission of HIV. For women with viral loads <1,000 copies/mL, cesarean delivery performed for standard obstetrical indications should be scheduled for 39 weeks' gestation. Data are insufficient to demonstrate a benefit for cesarean delivery of neonates in women with viral loads < 1,000 copies/mL and show no reduction in the transmission rate if cesarean delivery is performed after the onset of labor or rupture of membranes. The patient's autonomy in making the final decision regarding route of delivery must be respected. Prophylactic antibiotics are appropriate for cesarean delivery because of the increased risk of infectious morbidity.[4]

b. Vaginal Delivery:
   i. In women not receiving HAART, the longer the duration of membrane rupture before delivery, the greater the risk of transmission.
   ii. In women receiving HAART, the risk of perinatal transmission increases when membranes are ruptured for 4 or more hours prior to delivery.

c. Obstetric procedures increasing the risk for fetal exposure to maternal blood such as amniocentesis, invasive fetal monitoring (fetal scalp monitoring) and other invasive procedures (i.e. use of forceps or vacuum) have been implicated in increasing vertical transmission rates by some investigators.[4]

   i. If labor is progressing and membranes are intact, AROM or invasive monitoring should be avoided.
   ii. If SROM occurs early in the course of delivery, interventions to decrease the interval to delivery such as administration of oxytocin may be considered.

d. Postpartum Hemorrhage Contraindication: In women receiving a cytochrome P (CYP) 3A4 enzyme inhibitor such as a protease inhibitor (such as Atazanavir (ATV, reyataz) or darunavir/ritonavir), 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 in the lowest effective dose for the shortest possible duration.[4]

e. Postpartum: *Formula feed only*[4]. Breastfeeding is not recommended for HIV-infected women, including those receiving ART. Do not give infant expressed maternal milk.

f. Health care providers should routinely inquire about premastication of foods fed to infants, instruct HIV-infected caregivers to avoid this practice, and advise on safer feeding options (Initial Postnatal Management of the HIV-exposed neonate updated 7/31/2012)[4].

5. Neonatal HIV prophylaxis for infants born to HIV-positive mothers or infants born to mothers with an unconfirmed preliminary positive HIV test:

Recommended Neonatal Dosing for Prevention of Mother-to-Child Transmission of HIV (Table 9, Infant Antiretroviral Prophylaxis, Updated 1/29/2013)[4]

All HIV-Exposed Infants (initiated as soon after delivery as possible)		
Zidovudine (ZDV)	**Dosing**	**Duration**
ZDV	**≥35 weeks' gestation at birth**: 4 mg/kg/dose PO twice daily, started as soon after birth as possible and preferably within 6–12 hours of delivery (or, if unable to tolerate oral agents, 3 mg/kg/dose IV, beginning within 6–12 hours of delivery, then every 12 hours)	Birth through 6 weeks
ZDV	**≥30 to <35 weeks' gestation at birth**: 2 mg/kg/dose PO (or 1.5 mg/kg/dose IV), started as soon after birth as possible, preferably within 6–12 hours of delivery, then every 12 hours, advanced to 3 mg/kg/dose PO (or 2.3 mg/kg/dose IV) every 12 hours at age 15 days	Birth through 6 weeks
ZDV	**<30 weeks' gestation at birth**: 2 mg/kg body weight/dose PO (or 1.5 mg/kg/dose IV) started as soon after birth as possible, preferably within 6–12 hours of delivery, then every 12 hours, advanced to 3 mg/kg/dose PO (or 2.3 mg/kg/dose IV) every 12 hours after age 4 weeks	Birth through 6 weeks
Additional Antiretroviral Prophylaxis Agents for HIV-Exposed *Infants of Women who Received No Antepartum Antiretroviral Prophylaxis* (initiated as soon after delivery as possible)		
In addition to ZDV as shown above, administer **Nevirapine (NVP)**	**Weight Band dosing** **Birth weight 1.5–2 kg: 8 mg TOTAL for each dose** **Birth weight >2 kg: 12 mg TOTAL for each dose**	3 doses in the first week of life • 1st dose within 48 hours of birth (birth–48 hours) • 2nd dose 48 hours after 1st • 3rd dose 96 hours after 2nd

Key to Abbreviations: IV = intravenously; NVP = nevirapine; PO = orally; ZDV = zidovudine

b. To prevent pneumocystis jirovecii pneumonia (PCP), all infants born to women with HIV infection should begin PCP prophylaxis at ages 4 to 6 weeks unless there is adequate test information to presumptively exclude HIV infection. They may stop the PCP prophylaxis when they are determined to be presumptively HIV-negative (see description below).[6]

Dosage for PCP Prophylaxis[8]:

Drugs	Dose	Route	Schedule
Trimethoprim-sulfamethoxazole (Trimethoprim 150 mg/m^2 per day, with sulfamethoxazole 750 mg/m^2 per day)	5-10 mg/kg body weight TMP	PO	Once daily
	2.5-5 mg/kg body weight TMP	PO	Twice daily on 3 consecutive days per week (e.g., Monday, Tuesday, Wednesday) OR Twice daily every other day (e.g., Monday, Wednesday, Friday)
Alternative: Dapsone	2 mg/kg	PO	Once daily

c. Laboratory testing for infants[4]:

i. High risk infants, those born to mothers newly HIV infected during pregnancy, those with antenatal complications or with CD4 counts <200 copies/ml should have an HIV PCR drawn at birth.
ii. For all infants, draw a CBC with differential at birth for baseline evaluation.
iii. HIV PCR should be obtained at 14-21 days
iv. CBC and HIV PCR at 4-6 weeks (see below on diagnosis of HIV infection in infants and children).
v. HIV PCR at 4-6 months.
vi. HIV screen (EIA) after 18 months of age if not definitively negative.

Diagnosis of HIV infection and presumptive lack of HIV infection in children with known exposure to perinatal HIV[7]:

1. Definitive infection:

Positive virologic results on two separate specimens at any age (confirm ANY positive test with repeat test asap)

OR

Age >18 months and either a positive virologic test or a positive confirmed HIV-antibody test

2. Presumptive exclusion of infection in nonbreastfed infant:

No clinical or laboratory evidence of HIV infection

AND
Two negative virologic tests, both obtained at >2 weeks of age and one obtained at >4 weeks of age and no positive virologic tests
OR
One negative HIV antibody test at >6 months of age

3. Definitive exclusion of infection in nonbreastfed infant:
   No clinical or laboratory evidence of HIV infection
   AND
   Two negative virologic tests, both obtained at >1 month of age and one obtained at >4 months of age and no positive virologic tests
   OR
   Two or more negative HIV antibody tests at >6 months of age

4. Medication discontinuation:
   1. ZDV can be discontinued in the infant at the time of a preliminary HIV negative determination.
   2. PCP prophylaxis is not necessary in infants found to be preliminary or definitively negative for HIV prior to 4-6 weeks of age.
   3. PCP prophylaxis should be initiated in infants not shown to be preliminary negative at age 4-6 weeks. PCP prophylaxis can be discontinued in the infant at the time of a preliminary HIV negative determination.

Name: _____ MR#: _____ Date: _____

7. Labor & Delivery Orders for HIV Infected Women

1. Admit to L&D
2. Vital signs and FHT routine
3. May have clear liquid diet
4. Activity ad lib
5. IV: LR at 150 mL/hr
6. External monitors *only*
7. Do NOT rupture membranes until 8-10 cm dilation
8. Do NOT place fetal scalp electrode
9. Zidovudine (ZDV) 2 mg/kg over 1 hour on admission if mother has HIV RNA (viral load) >1000 copies/mL or unknown viral load (VL) at 36 weeks*
    a. weight in pounds ___ /2.2 = ___ kg;
    b. loading dose ZDV (2mg x _____kg = ____ mg ZDV over 1 hour).
10. ZDV 1 mg/kg/hour thereafter until delivered (maintenance dose = ___ mg/hr)
11. If patient is taking other anti-retroviral medications, continue them as per patient's schedule (except d4T—stop during labor while ZDV is administered, and ZDV—give per IV route in #9 and 10 above and stop PO dosing during labor). Do NOT stop such therapy for planned surgery; patient may take with sips of water.
12. Notify Pediatrics of impending birth.

Signed: _____Date: _____

* if VL <1000 copies/mL at 36 weeks, ZDV is not required but still recommended

Zidovudine Dosing for HIV in Pregnancy

Current pregnancy weight in Pounds (Lbs)	Current pregnancy weight in Kilograms (Kg)	Loading Dose in mg (=2mg/kg over 1 hr)	Add loading dose (in mg) to 100ml D5W or NS, infuse mixture over 60 minutes	For Continuous Infusion: Withdraw 100ml from a 250 ml bag of D5W or NS, add 100 ml of 10mg/ml ZDV to bag (1 vial ZDV = 20ml). Yield = 1000mg in 250 ml solution Concentration = 4mg/ml. Dose *(in ml)* = pts. wt. in kg x 1mg/kg/hr divided by 4mg/ml	Rate of infusion
125	56.70	113.4	add 113 mg to 100ml D5W or NS	14.2	Run infusion at 14 ml/hr
130	58.97	117.9	add 118 mg to 100ml D5W or NS	14.7	Run infusion at 15 ml/hr
135	61.24	122.5	add 123 mg to 100 ml D5W or NS	15.3	Run infusion at 15 ml/hr
140	63.50	127.0	add 127 mg to 100 ml D5W or NS	15.9	Run infusion at 16 ml/hr
145	65.77	131.5	add 132 mg to 100 ml D5W or NS	16.4	Run infusion at 16 ml/hr
150	68.04	136.1	add 136 mg to 100 ml D5W or NS	17.0	Run infusion at 17 ml/hr
155	70.31	140.6	add 141 mg to 100 ml D5W or NS	17.6	Run infusion at 18 ml/hr
160	72.58	145.2	add 145 mg to 100 ml D5W or NS	18.1	Run infusion at 18 ml/hr
165	74.84	149.7	add 150 mg to 100 ml D5W or NS	18.7	Run infusion at 19 ml/hr
170	77.11	154.2	add 154 mg to 100 ml D5W or NS	19.3	Run infusion at 19 ml/hr
175	79.38	158.8	add 159 mg to 100 ml D5W or NS	19.8	Run infusion at 20 ml/hr
180	81.65	163.3	add 163 mg to 100 ml D5W or NS	20.4	Run infusion at 20 ml/hr
185	83.92	167.8	add 168 mg to 100 ml D5W or NS	21.0	Run infusion at 21 ml/hr
190	86.18	172.4	add 172 mg to 100 ml D5W or NS	21.5	Run infusion at 22 ml/hr
195	88.45	176.9	add 177 mg to 100 ml D5W or NS	22.1	Run infusion at 22 ml/hr
200	90.72	181.4	add 181 mg to 100 ml D5W or NS	22.7	Run infusion at 23 ml/hr
205	92.99	186.0	add 186 mg to 100 ml D5W or NS	23.2	Run infusion at 23 ml/hr
210	95.26	190.5	add 191 mg to 100 ml D5W or NS	23.8	Run infusion at 24 ml/hr
215	97.52	195.0	add 195 mg to 100 ml D5W or NS	24.4	Run infusion at 24 ml/hr
220	99.79	199.6	add 200 mg to 100 ml D5W or NS	24.9	Run infusion at 25 ml/hr
225	102.06	204.1	add 204 mg to 100 ml D5W or NS	25.5	Run infusion at 26 ml/hr
230	104.33	208.7	add 209 mg to 100 ml D5W or NS	26.1	Run infusion at 26 ml/hr
235	106.60	213.2	add 213 mg to 100 ml D5W or NS	26.6	Run infusion at 27 ml/hr
240	108.86	217.7	add 218 mg to 100 ml D5W or NS	27.2	Run infusion at 27 ml/hr
245	111.13	222.3	add 222 mg to 100 ml D5W or NS	27.8	Run infusion at 28 ml/hr
250	113.40	226.8	add 227 mg to 100 ml D5W or NS	28.3	Run infusion at 28 ml/hr
255	115.67	231.3	add 231 mg to 100 ml D5W or NS	28.9	Run infusion at 29 ml/hr
260	117.94	235.9	add 236 mg to 100 ml D5W or NS	29.5	Run infusion at 30 ml/hr
265	120.20	240.4	add 240 mg to 100 ml D5W or NS	30.1	Run infusion at 30 ml/hr
270	122.47	244.9	add 245 mg to 100 ml D5W or NS	30.6	Run infusion at 31 ml/hr
275	124.74	249.5	add 250 mg to 100 ml D5W or NS	31.2	Run infusion at 31 ml/hr

*__Notes:__ Zidovudine (ZDV) is compatible with Normal Saline (NS) and D5W. When ZDV is mixed with NS or D5W, it is stable for 24 hours at room temperature and 48 hours when refrigerated. For IV use ONLY.

9. Appendix A.

Refer to the Perinatal ARV Drug Use Chart[4] online or the Antiretroviral Therapy in Pregnancy chart below for alternative regimens. Call 729-2907 for regimen consultation.

Antiretroviral Therapy in Pregnancy Alternative Regimens		
Two-NRTI Backbone	**Third Active Agent**	**Notes**
Epzicom (ABC*+3TC) Or Truvada (TDF+FTC) Or Combivir (ZDV+3TC)	**PI**: Kaletra (LPV/r)	Kaletra (LPV 400 mg/RTV 100 mg) 1 tablet BID More nausea than preferred agents. Once-daily LPV/r not recommended in pregnant women. *Patient must have HLA-B5701 sensitivity test before receiving ABC (in Epzicom).
Epzicom (ABC*+3TC) Or Truvada (TDF+FTC) Or Combivir (ZDV+3TC)	**NNRTI:** Rilpivirine (RPV)	Complera (RPV/TDF/FTC) 1 tablet daily, single tablet regimen. RPV not recommended with pretreatment HIV RNA>100,000 copies/mL or CD4<200 cells/mm3. Do not use with PPIs. *Patient must have HLA-B5701 sensitivity test before receiving ABC (in Epzicom).

Insufficient Data for Use	Dolutegravir, Stribild, Fosamprenavir, Maraviroc, Cobicistat
Not Recommended	Atripla (ABC/3TC/ZDV); Didanosine; Indinavir/ritonavir; Nelfinavir; Nevirapine; Ritonavir-as a single agent; Saquinavir/ritonavir; Enfuvirtide; Tipranavir/ritonavir

Key to Acronyms: 3TC = lamivudine; ABC = abacavir; ATV/r = atazanavir/ritonavir; COBI = cobicistat; d4T = stavudine; ddI = didanosine; DTG = dolutegravir; DRV/r = darunavir/ritonavir; EFV = efavirenz; ETR = etravirine; EVG = elvitegravir; FPV = fosamprenavir; FTC = emtricitabine; IDV/r = indinavir/ritonavir; LPV/r = lopinavir/ritonavir; MVC = maraviroc; NFV = nelfinavir; NRTI = nucleoside reverse transcriptase inhibitor; NNRTI = non-nucleoside reverse transcriptase inhibitor; NVP = nevirapine; PI = protease inhibitor; PPI = proton pump inhibitor; RAL = raltegravir; RPV = rilpivirine; RTV = ritonavir; SQV/r = saquinavir/ritonavir; T20 = enfuvirtide; TDF = tenofovir disoproxil fumarate; TPV = tipranavir; ZDV = zidovudine

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