

# Pregnancy and HIV <sup>[1]</sup>

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## The Good News

Due to advances in HIV care and treatment, many women living with HIV (HIV+) are living longer, healthier lives. As women living with HIV think about their futures, some are deciding to have the babies they always wanted.

The good news is that advances in HIV treatment have also greatly lowered the chances that a mother will pass HIV on to her baby (also known as perinatal HIV [transmission](#) <sup>[2]</sup>, or vertical transmission; also sometimes called "mother-to-child" transmission). The World Health Organization reports HIV that can be perinatally transmitted as much as 45 percent of the time when mothers are not taking HIV drugs. However, with HIV treatment, the chances of perinatal transmission can be less than five in 100 births. According to the US Centers for Disease Control and Prevention (CDC), if the mother takes HIV drugs and is virally suppressed (viral load is undetectable), the chances of transmission can be less than one in 100. It is also important to note that studies have shown that being pregnant will not make HIV progress faster in the mother.

One way we learn about how HIV drugs affect pregnancy is through the Antiretroviral Pregnancy Registry. Pregnant women living with HIV are encouraged to register (through their health care providers) with the Antiretroviral Pregnancy Registry at <http://www.APRegistry.com> <sup>[3]</sup>. This registry tracks all women in the US who are pregnant and taking HIV drugs to see if these medications are harmful to the developing baby.

*Click above to view or download this fact sheet as a [PDF slide presentation](#) [4]*

## Before You Get Pregnant

It is important to plan carefully before getting pregnant:

- Discuss your plans with your HIV health care provider to make sure you are on the right [treatment plan](#) [5] for your own health and to reduce the risk of perinatal transmission (more about this in the next sections).
- Find an obstetrician (OB) or midwife who is familiar with HIV care. She or he can explain your options for getting pregnant with as little risk to your partner as possible. For more information on getting pregnant and options for safer conception, see our fact sheet on [Getting Pregnant and HIV](#) [6].
- Ask your HIV health care provider and your OB or midwife to talk with each other and coordinate your care before and during your pregnancy.
- Get screened for [sexually transmitted infections or diseases \(STIs or STDs\)](#) [7], hepatitis [B](#) [8] and [C](#) [9], and [tuberculosis](#) [10].
- Do your best to give up [smoking](#) [11], [drinking, and drugs](#) [12] - all of these can be bad for your health and the health of your baby. Researchers recently found that smoking dramatically increases the risk of pregnancy loss ? miscarriage and stillbirth ? in women living with HIV.
- Start taking pregnancy vitamins ("prenatal" vitamins) that contain folic acid while you are trying to become pregnant. This can reduce the rates of some birth defects.
- If friends and family do not support your decision to have a child, put together a [support network](#) [13] of people who are caring, non-judgmental, and well educated about HIV and pregnancy. Your network can include medical providers, counselors, and other women living with HIV who are considering pregnancy or who have had children.

If you are living with HIV or partnered with someone who is, and you want more information on having a child, please see our fact sheet on [Getting Pregnant and HIV](#) [6].

## The Pregnancy Guidelines

Several groups of experts on pregnancy in women living with HIV have developed guidelines that provide information about appropriate care and treatment for women living with HIV who are, or may become, pregnant.

As a first step, the pregnancy guidelines issued by the US Department of Health and Human Services (DHHS) recommend a thorough check up, including a number of blood tests, to find out about your health and the status of your HIV infection. A resistance test (see our fact sheet on [resistance](#) [14] for info about this test) should be included if you:

- Are [starting HIV drugs](#) [5]
- Are taking HIV drugs and have a detectable [viral load](#) [15] (500 ? 1,000 copies or more)

The results of a resistance test can help you and your health care provider choose the best drugs to take.

Recent studies have shown that starting HIV treatment as early as possible, even when someone feels well and has a high CD4 count (a strong immune system), is the best way to stay healthy while living with HIV. Also, starting HIV treatment and having an undetectable viral load before getting pregnant is healthier not only for the mother, but also for the baby. As a result, the World Health Organization (WHO) recommends that all pregnant and breastfeeding women living with HIV, regardless of their CD4 count, begin HIV treatment as soon as possible and continue it lifelong. This is important for the health of the woman as well as for her baby, since HIV drugs can reduce the risk of perinatal transmission.

HIV drugs need to be taken just as they are prescribed to have the best chance of working (see our fact sheet on [adherence](#) <sup>[16]</sup> for more info). Also, if a woman living with HIV takes HIV drugs and gets her viral load very low, she reduces the chances of transmitting HIV to her sexual partners.

## HIV Drugs and Pregnancy

Most HIV drugs are safe when taken during pregnancy, and studies have shown that the developing baby is healthier when the mother begins HIV treatment before getting pregnant. In general, pregnant women living with HIV can take the same HIV treatment recommended for women who are not pregnant.

However, there are certain drugs that should be avoided or used with caution because of possible [side effects](#) <sup>[17]</sup> in the mother or the developing baby. Some examples are the combination of Videx (didanosine, ddl) and Zerit (stavudine, d4T) or the combination of Zerit and Retrovir (zidovudine or AZT). Viramune (nevirapine) should not be started in women living with HIV who have CD4 cell counts over 250.

Though there used to be some debate about the safety of taking efavirenz (brand name Sustiva; also found in Atripla) during early pregnancy, the DHHS's [October 2016 guidelines](#) <sup>[18]</sup> are now consistent with the guidelines of the World Health Organization (WHO) and the British HIV Association. All organizations suggest that efavirenz can be taken throughout pregnancy, including during the first trimester (12 weeks). In addition, women who are successfully virally suppressed on a treatment regimen containing efavirenz who become pregnant should continue on efavirenz throughout pregnancy.

It is important that you discuss the risks and benefits of the HIV drugs with your health care provider so that you can decide which treatments are best for you and your baby. In the US, your health care provider can call the [National Perinatal HIV Hotline](#) <sup>[19]</sup> for free, expert advice on all aspects of caring for pregnant women living with HIV.

The DHHS's pregnancy guidelines make the following recommendations:

### For Women Living with HIV and Not Taking HIV Drugs

It is important for a pregnant woman to take a combination of HIV drugs for her own health as well as to reduce the chances of passing HIV to her baby. HIV treatment should start as soon as possible. Many HIV drugs are safe when taken during pregnancy.

It is important that HIV treatment continue during labor and delivery. Women with viral loads of 1,000 or more should also receive intravenous (IV) administration of Retrovir, regardless of

their HIV drug regimens during pregnancy or their modes of delivery. Women with a viral load of less than 1,000 do not need to receive intravenous Retrovir.

After delivery, the baby should receive liquid Retrovir for six weeks. When the mother has received HIV drugs during pregnancy and remained virally suppressed, health care providers may consider giving the baby four weeks of liquid Retrovir.

After the birth of the baby, it is important for the mother to talk with her health care provider about the risks and benefits of continuing her own HIV treatment. The DHHS recommends that all adults, including new mothers, receive HIV drugs regardless of CD4 count.

### **For Women Living with HIV Who Are Already Taking HIV Drugs**

Women in this situation should continue taking their current HIV drugs if they are working well to control the virus. Unnecessary switching of HIV drugs can lead to loss of viral control and thus increase the risk of passing HIV to the developing baby.

If a viral load test shows that the drugs are not working, switch to a more effective combination. The drugs should be continued during labor and delivery, during which time IV Retrovir should also be given to the mother if she has a viral load of 1,000 or more. Women with a viral load of less than 1,000 can continue to take their current regimen and do not need the addition of IV Retrovir. After delivery, the baby should receive liquid Retrovir for four or six weeks.

### **For Pregnant Women Living With HIV Who Are in Labor and Have Not Taken HIV Drugs**

A woman in labor who has not taken HIV drugs can still reduce the risk of passing HIV to her baby by using HIV drugs during labor and delivery and treating the baby for a short time after birth. The DHHS guidelines recommend the following:

- For the mother: IV Retrovir during labor
- For the baby: a combination of six weeks of Retrovir plus three doses of Viramune in the first week of life (at birth, 48 hours after birth, and 96 hours after the second dose)

After the baby is born, it is recommended that the mother start HIV treatment for her own health.

### **For Babies Born to Women Living with HIV Who Have Not Taken HIV Drugs Before or During Labor**

The baby can still receive treatment to reduce the risk of transmission. The DHHS guidelines recommend the following:

- A combination of six weeks of Retrovir plus three doses of Viramune in the first week of life (at birth, 48 hours after birth, and 96 hours after the second dose)

After the baby is born, it is recommended that the mother start HIV treatment for her own health.

## Tests, Procedures, and Delivery

There are a number of invasive prenatal tests, such as amniocentesis, chorionic villus sampling (CVS), and umbilical blood sampling that may increase the risk of HIV transmission [2] to the baby. Talk to your health care provider if you need these tests. Certain procedures during delivery, such as invasive monitoring and forceps- or vacuum-assisted delivery, should be avoided if possible.

Viral loads should be checked when first coming into prenatal care, when first starting HIV drugs, and every month thereafter until the mother's viral load is undetectable. At that point, viral loads can be checked every trimester (every 12 weeks) during pregnancy. The viral load should be checked at 36 weeks of pregnancy before going into labor to determine the type of delivery that is best for the mother and baby.

There are 2 types of delivery: cesarean (C-section) and vaginal delivery.

### C-section

Women living with HIV do not need, and are not recommended, to have a C-section unless they:

- have a viral load of more than 1,000 copies
- have an unknown viral load, or
- need a C-section for pregnancy-related reasons other than preventing HIV transmission.

If a woman needs an elective (or planned) C-section, it is done before labor begins and before the mother's "water" (sac of fluid that surrounds the baby) breaks. This reduces the baby's contact with the mother's blood and may reduce the risk of transmission in certain cases. Since C-sections require surgery, they carry some risks. Women who have C-sections are more likely to get infections than those who give birth vaginally.

### Vaginal delivery

For a woman on combination HIV treatment with a low viral load (less than 1,000), a C-section has not been shown to further reduce her already very low risk of transmitting HIV.

The decision of which type of delivery is best for you should be discussed with your health care provider early in your pregnancy.

## After the Baby Is Born

During the first four to six weeks, the baby will need to take Retrovir (and possibly other HIV drugs). A blood test [20] called a complete blood count (CBC) should be performed on the newborn baby as a baseline.

The baby will receive a test for HIV viral load to determine if he or she has acquired HIV. This test looks for the virus, rather than HIV antibodies. HIV antibody tests, which are commonly used to determine HIV infection in adults, should not be used in newborns since babies carry their mother's antibodies for up to 18 months.

HIV virus testing should be done when the baby is first born, at one month, and at four months. If the baby has two negative tests by four months, the baby does not have HIV. If the baby has a positive HIV test, then the baby has HIV and must start HIV treatment right away. Many experts do an HIV antibody test when the baby is 12 to 18 months old just to be sure the antibodies from the mother have cleared from the baby's immune system.

Since it is possible to transmit HIV through breast milk, in the US and other high-resource countries where water is safe and formula is available and affordable, it is strongly advised that you not breastfeed. You can still have a strong bond with your child even if you bottle feed.

If you live where safe water is not easy to get, the risk to your baby of life-threatening conditions from formula feeding with unsafe water may be higher than the risk of HIV infection through breastfeeding. In some areas, formula may also be too expensive or not regularly available. If you are in either of these situations, it is better to feed your baby on breast milk alone while continuing to take your HIV drugs.

The good news is that breast milk contains many important antibodies to keep your baby healthy and has been found to have a protein, Tenascin-C, that helps neutralize the virus. While it is still possible to transmit HIV through breastfeeding, the chances are less if you are on HIV drugs and your viral load is undetectable.

Mixed feeding, in which a baby is given breast milk as well as other liquids (e.g., formula, sugar water, gripe water), is not recommended. It is currently thought that mixed feeding may damage the lining of babies' stomachs and make them more likely to get HIV when exposed to it in breast milk. If, for whatever reason, you cannot feed your baby exclusively on formula, it is recommended that you take HIV drugs and feed with breast milk alone.

The WHO recommends that if you breastfeed, breast milk should be the only source of food for your baby for the first six months of life. Between months six and 12, it recommends that the baby be introduced slowly to other foods until it is weaned from breast milk at 12 months (assuming the baby is receiving proper nutrition from regular food at that point). While breastfeeding, it is important that the mother continue to take her HIV drugs to limit the chances of passing HIV to her baby.

It is also important **not** to feed your baby food that has been chewed first (pre-masticated) by someone who is living with HIV. Blood in the person's saliva can transmit HIV to your child.

## In Conclusion

Deciding to have a baby is a big step for any woman, but for a woman living with HIV, it is even more complicated. Talk to your HIV health care provider and obstetrician or midwife before you start trying to get pregnant. If you plan ahead, there are many things you can do to protect your health and the health of your new baby.

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## Additional Resources

Select the links below for additional material related to pregnancy and HIV.

[HIVE: A Hub of Positive Sexual and Reproductive Health](#) [34]

[Breastfeeding for HIV+ Mothers in the US \(HIVE\)](#) [35]

[Pregnancy, Childbirth & Breastfeeding and HIV \(Avert\)](#) [36]

[Risk of Pregnancy Loss Among Smokers Much Higher for Women with HIV \(AIDSmap\)](#) [37]

[HIV and AIDS in Pregnancy \(BabyCenter\)](#) [38]

[Breast Milk Protein May Be Key to Protecting Babies from HIV Infection \(Science Daily\)](#) [39]

[Pregnancy and Birth \(AIDSmap\)](#) [40]

[Fact Sheet: HIV & Pregnancy \(Avert\)](#) [41]

[Prevention of Mother-to-Child Transmission \(PMTCT\) of HIV \(Avert\)](#) [42]

[Pregnancy and Childbirth \(AIDS.gov\)](#) [43]

[What Is the Antiretroviral Pregnancy Registry?](#) [44]

[Pregnancy and HIV \(Office on Women's Health\)](#) [45]

[FAQ \(American College of Obstetricians and Gynecologists\)](#) [46]

[24/7 Illinois Perinatal HIV Hotline](#) [47]

[Preconception Care & the Elimination of Perinatal Transmission \(AETC\)](#) [48]

[FOR PROVIDERS - Clinician Consultation Center: Perinatal HIV/AIDS \(UCSF; 1-888-448-8765\)](#) [19]

[FOR PROVIDERS ? Clinician Consultation Center: PrEPline \(UCSF; 1-855-448-7737\)](#) [49]

[HIV among Pregnant Women, Infants, & Children \(CDC\)](#) [50]

[HIV Medicines During Pregnancy and Childbirth \(AIDSinfo\)](#) [51]

[HIV and Family Planning \(POZ\)](#) [52]

[You Can Have a Healthy Pregnancy if You Are Positive \(CATIE\)](#) [53]

[Can HIV-Positive People Have Babies? - Infographic \(TheBody.com\)](#) [54]

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- [A Girl Like Me](#)
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**Links:**

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- [2] <http://www.thewellproject.org/hiv-information/hiv-transmission>
- [3] <http://www.APRRegistry.com>
- [4] [http://www.thewellproject.org/sites/default/files/Pregnancy%20and%20HIV.8.2016.ogf1\\_.pdf](http://www.thewellproject.org/sites/default/files/Pregnancy%20and%20HIV.8.2016.ogf1_.pdf)
- [5] <http://www.thewellproject.org/hiv-information/starting-hiv-treatment>
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- [7] <http://www.thewellproject.org/hiv-information/sexually-transmitted-infections-or-diseases-stis-or-stds>
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- [18] <https://aidsinfo.nih.gov/guidelines/html/3/perinatal-guidelines/0>
- [19] <http://nccc.ucsf.edu/clinician-consultation/perinatal-hiv-aids/>
- [20] <http://www.thewellproject.org/hiv-information/understanding-lab-tests-i-complete-blood-count-and-blood-chemistry>
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- [34] <http://www.hiveonline.org/>
- [35] <http://www.hiveonline.org/wp-content/uploads/2015/02/Breastfeeding-for-HIV-Mothers-in-the-US-Waldron.pdf>
- [36] <http://www.avert.org/hiv-and-breastfeeding.htm>
- [37] [http://www.aidsmap.com/page/3109946/?utm\\_source=NAM-Email-Promotion&utm\\_medium=aidsmap-news&utm\\_campaign=aidsmap-news](http://www.aidsmap.com/page/3109946/?utm_source=NAM-Email-Promotion&utm_medium=aidsmap-news&utm_campaign=aidsmap-news)
- [38] <http://www.babycenter.in/a544487/hiv-and-aids-in-pregnancy>

- [39] <https://www.sciencedaily.com/releases/2013/10/131021153200.htm>
- [40] <http://www.aidsmap.com/Pregnancy-and-birth/page/1550310/>
- [41] <https://www.avert.org/learn-share/hiv-fact-sheets/pregnancy>
- [42] <http://www.avert.org/professionals/hiv-programming/prevention/prevention-mother-child>
- [43] <https://www.aids.gov/hiv-aids-basics/prevention/reduce-your-risk/pregnancy-and-childbirth/>
- [44] <http://www.apregistry.com/Patients.aspx>
- [45] <https://www.womenshealth.gov/hiv-and-aids/living-hiv/pregnancy-and-hiv>
- [46] <http://www.acog.org/~media/For%20Patients/faq113.pdf?dmc=1&ts=20140424T1004301178>
- [47] <http://www.hivpregnancyhotline.org/>
- [48] [http://aidsetc.org/sites/default/files/resources\\_files/EMTCT%20%26%20Preconception%20Care.pdf](http://aidsetc.org/sites/default/files/resources_files/EMTCT%20%26%20Preconception%20Care.pdf)
- [49] <http://nccc.ucsf.edu/2014/09/29/introducing-the-ccc-prepline/>
- [50] <https://www.cdc.gov/hiv/group/gender/pregnantwomen/>
- [51] <https://aidsinfo.nih.gov/education-materials/fact-sheets/24/70/hiv-medicines-during-pregnancy-and-childbirth>
- [52] <https://www.poz.com/basics/hiv-basics/hiv-family-planning>
- [53] <http://www.catie.ca/en/practical-guides/pregnancy/you-can-have-healthy>
- [54] <http://www.thebody.com/content/74413/can-hiv-positive-people-have-babies-infographic.html>