



HIV in Specific Populations

# HIV and Family Planning

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Thanks to highly effective antiretroviral (ARV) treatment, many people living with HIV are living healthy and productive lives. This has allowed many of us to pursue long-term goals and ambitions, such as starting and raising a family.

While having children is definitely an option for women living with HIV (and men), it requires careful planning with a health care provider. This includes “preconception” planning—exploring available options to help you conceive—and taking necessary steps during pregnancy (whether its planned or unplanned) to protect your health and your baby’s.

The good news is that there are many ways to plan a healthy pregnancy and a number of strategies to help you reduce the risk of transmitting the virus to your infant.

Whether you’re thinking of starting a family or are already pregnant, familiarize yourself with the amazing medical advances available and discuss your various options with your health care team.

You may encounter the judgmental attitudes of people, including doctors, who think that it is morally wrong for women living with HIV to become pregnant and have children. If your health care provider isn’t supportive or is being judgmental, it’s your right to find someone else who will be supportive.

Can couples living with HIV become pregnant?

Yes. However, some methods are potentially riskier (and more costly) than others. Here’s a look at options available to positive or serodiscordant (one partner has HIV, while the other doesn’t) couples:

**Unprotected vaginal intercourse.** If the man is positive and the woman is negative—or vice versa—there’s a risk of HIV transmission if unprotected vaginal intercourse is the conception method of choice. But if the positive partner is on antiretroviral treatment and his or her [viral load](#) is undetectable, there is effectively no risk of transmission. Other ways to reduce the chance of transmission include pre-exposure prophylaxis (PrEP), a short course of HIV drugs given to the negative partner before intercourse to help prevent infection. There’s also timed intercourse—engaging in unprotected vaginal sex only during times of peak ovulation.

**Assisted reproduction.** Assisted reproduction involves the use of technology, usually at a fertility clinic, to achieve fertilization without vaginal intercourse. In the past, fertility clinics were generally

unwilling to help out HIV-positive or HIV-serodiscordant couples wanting to become pregnant. Today, several clinics across the United States are offering a full range of reproductive services to HIV-positive couples. While assisted reproduction technologies are changing all the time, there are a few “standard” approaches to know about.

- Oligospermia cup insemination (OGI): This is perhaps the least invasive procedure offered by assisted reproduction clinics. It involves placing sperm in a cup that is securely fastened to the cervix, similar to a diaphragm, to coax the sperm to enter the uterus and fertilize an egg released by the ovaries.
- In utero fertilization (IUF): This procedure involves placing sperm deep within the uterus to promote fertilization.
- In vitro fertilization (IVF): Using this method, the woman takes fertility drugs to stimulate her ovaries to produce more eggs. The eggs are then retrieved and combined, in a petri dish, with sperm from the male partner (or sperm donor). Once fertilization occurs, the embryo is then implanted in the lining of the woman’s uterus using a thin plastic tube.
- Intracytoplasmic sperm insertion (ICSI): With this technique, a single sperm is injected into the egg and the embryo is placed in the fallopian tubes or uterus.

Regardless of which procedure is selected, it is important for the HIV-positive partner to be on antiretroviral treatment and to have an undetectable viral load before attempting fertilization. However, even if a male’s HIV is undetectable in his blood, it is still possible for HIV to be present in his sperm. To further reduce the risk of transmission, some clinics offer a procedure called “sperm washing.” Sperm washing involves placing collected semen in a test tube and mixing it with a solution that is denser than the seminal fluid (where HIV can be found) but less dense than sperm. The test tube is then placed in a centrifuge and spun at a high speed, causing the seminal fluid to rise to the top and the sperm to sink to the bottom. The seminal fluid is then skimmed off and the remaining sperm sample is tested for HIV using ultrasensitive tests. If no HIV is found, the sperm is then used to fertilize the egg using one of the procedures described above.

To learn more about assisted reproduction for couples living with HIV, consider getting in touch with the [Special Program for Assisted Reproduction](#) (SPAR) at the Bedford Research Foundation in Bedford, Massachusetts. SPAR has a national network consisting of more than 25 fertility centers throughout the U.S.

Adoption. Adopting a baby is always an option, although this can be difficult when one or both prospective parents have a “chronic medical condition,” such as HIV. Laws and regulations vary from state to state and by agency, so you’ll want to do some homework—and seek legal advice—if

you feel that adoption is the best option for you.

Is it safe to be HIV positive and pregnant?

Yes. While pregnancy carries certain health risks, research suggests that HIV doesn't appear to add to these risks. However, there are no absolute certainties or across-the-board truths. Every woman is different.

There's no data to suggest that pregnancy accelerates the rate of HIV disease progression. HIV by itself won't stop you from having a safe pregnancy. In fact, a study published in September 2007 suggests that pregnancy may actually have protective health effects for women living with HIV. The study found that pregnant women living with HIV were more than 60 percent less likely to progress to AIDS or death over a six-year follow-up period than those who did not become pregnant.

As for your baby's health, there is much to be optimistic about. Without proper HIV medical care, a woman living with HIV has a 25 percent chance of passing HIV to her baby. However, if she receives antiretroviral therapy while she is pregnant—and keeps her viral load undetectable—the risk of her passing the virus to her baby is 2 percent (or less). And if she is generally healthy, gets good prenatal care, controls risk factors (smoking, high blood pressure, etc.), the risks of premature delivery and birth defects are similar to those for HIV-negative women delivering babies.

How does mother-to-child transmission happen?

Researchers are not exactly sure when babies are infected with HIV during pregnancy. It has been said that a small percentage of all babies are infected with HIV while developing inside their mothers' uteruses (wombs). However, this has not really been proven. It is known that the vast majority of infections occur during labor (the time of delivery) or after the baby is born and is breast-fed by his or her HIV-positive mother.

Throughout pregnancy, a developing fetus has his or her own blood supply. In other words, the developing fetus does not come into contact with the blood of his or her mother. This helps protect the fetus from infections in the mother's blood, such as HIV. However, developing fetuses do receive nutrients and various proteins, such as immune system antibodies, from their mothers. While a mother's HIV may not enter the fetus, her antibodies to the virus will. These antibodies cannot harm the fetus, but will cause the baby to test "positive" to an HIV antibody test at birth.

At the time of birth (labor), a baby often comes into contact with his or her mother's blood. If the mother's blood enters the baby's body, this is when HIV can be transmitted.

Don't all babies born to mothers living with HIV test positive for the virus?

Yes, they do. It is important to keep in mind what the HIV test is. The test looks for antibodies to HIV; it does not look for the virus itself. Because a fetus is exposed to his or her mother's HIV antibodies, he or she will automatically test "positive" after birth. These antibodies can remain in the baby's body for more than 18 months after he or she is born.

Most hospitals now test babies born to women living with HIV using polymerase chain reaction (PCR). This test can be performed within a few days after delivery and looks for HIV itself in a blood sample collected from the baby. If the test is negative, it should be repeated within a few months after the birth to look for HIV.

Why is prenatal care so important?

Every pregnant woman, regardless of her HIV status, should see a doctor regularly to receive prenatal care. Simply put, prenatal care is a specialized type of health care designed to protect the health of both the woman and her developing baby. Prenatal care can help all pregnant women figure out what they should do to improve their diets and vitamin/mineral intake and to reduce unhealthy habits, such as smoking, drinking alcohol, and doing drugs.

If a pregnant woman does not know whether or not she's HIV positive, it is highly recommended that she be tested as soon as possible. The U.S. Department of Health and Human Services, as well as other health care agencies and organizations, recommend that all pregnant women be tested for HIV. Pregnant women should also be tested for rubella, [hepatitis B](#), [hepatitis C](#), [herpes](#), [cytomegalovirus](#), [toxoplasmosis](#) and [syphilis](#).

If a pregnant woman finds out that she is positive while she is pregnant, or knew that she was positive before getting pregnant, prenatal care programs can help protect her health and the health of her developing baby. Usually, a prenatal care program calls for monthly visits to a clinic or doctor's office for the first eight months of pregnancy. During the eighth and ninth months of pregnancy, visits are more frequent, typically every two weeks.

Prenatal care for women who are HIV positive almost always includes CD4 cell count and viral load tests and HIV drug treatment. It may also include treatments to prevent AIDS-related infections and to manage drug side effects, as well as important nutritional care.

Women living with HIV might want to avoid some aspects of typical prenatal care. For example, amniocentesis, used to test for genetic defects in the baby, is done with a needle that passes through the mother's abdomen and into the womb. While this test may be necessary to look for any genetic problems that a developing baby may have, it can also increase the risk of transmitting HIV.

Should HIV treatment be used during pregnancy?

Antiretroviral treatment is recommended for all women living with HIV during pregnancy to reduce the risk of perinatal transmission. In general, the same regimens that are recommended for non-pregnant women should be used in pregnant women unless there are known adverse effects. For more information, visit the U.S. Department of Health and Human Services (DHHS) guidelines, [Recommendations for Use of Antiretroviral Drugs in Pregnant Women with HIV Infection and Interventions to Reduce Perinatal HIV Transmission in the United States](#), which are based on extensive reviews of available data by a panel of experts in the field of HIV-related pregnancy care. The most recent edition of its guidelines were last updated December 2018.

What about the potential side effects of combination therapy?

Anybody who is HIV-positive and taking an HIV drug combination faces the risk of side effects. Pregnant women living with HIV are no different. Side effects include metabolic changes and lipodystrophy, which can cause an increase in blood levels of fats (triglycerides and cholesterol) and sugars (glucose). By itself, pregnancy is a risk factor for elevated glucose levels (hyperglycemia). It's not yet known if HIV medications increase the risk of these metabolic problems occurring in pregnant women.

Some HIV drugs can cause liver damage, such as increases in the liver enzyme bilirubin (hyperbilirubinemia). Too much of this enzyme can harm a fetus. While most HIV-positive people taking a protease inhibitor only experience mild increases in this enzyme, pregnant women taking these drugs—especially the protease inhibitors [Reyataz](#) (atazanavir) and [Crixivan](#) (indinavir)—should be extra careful and have their bilirubin levels checked (via a blood test) regularly.

Another possible side effect of combination therapy is pre-term delivery. In early clinical trials, some women who used a combination of HIV drugs that included protease inhibitors gave birth to their babies earlier than they should have. This can cause health problems for the baby. However, a number of studies conducted in recent years have not found that women living with HIV receiving combination therapy are any more likely than other women to give birth to pre-term babies.

Some drugs, especially the [nucleoside analogues](#), can damage the mitochondria—the tiny “powerhouses” inside cells that provide cells with energy. Cells that contain too many severely damaged mitochondria must resort to an abnormal type of energy production that doesn't rely on the mitochondria. Lactic acid is the chemical byproduct of this sort of abnormal energy production. If too much lactic acid builds up in the body (lactic acidosis), serious illness can occur, including fatigue, nausea/vomiting, painful inflammation of the pancreas, and liver damage.

Severe cases of lactic acidosis can be deadly. The U.S. Food and Drug Administration has issued an important warning that women living with HIV should not take [Zerit](#) (stavudine; d4T) and [Videx](#) or [Videx EC](#) (didanosine; ddi) at the same time if they are pregnant. Some pregnant women who took these drugs together developed lactic acidosis, which resulted in deaths. It is not clear if any of the other nucleoside analogues cause lactic acidosis in women or mitochondrial damage in babies born to mothers taking these drugs. Fortunately, Retrovir has been studied for many years in pregnant women and babies and has not been shown to cause any of these problems.

What about cesarean sections?

Cesarean section—often called a “C-section”—is a type of surgery that can greatly reduce an HIV-positive woman's risk of passing along the virus to her baby at the time of birth. However, it is still not known if C-sections are any more effective than taking a powerful HIV drug combination in reducing this risk. It is also not known if a woman who takes a powerful HIV drug combination and has a C-section has a lower chance of passing along the virus to her baby than a woman who takes HIV drugs and has a vaginal delivery.

Of course, C-sections are used to deliver babies for a variety of reasons. Beyond reducing the risk of mother-to-child HIV transmission, other reasons may require pregnant women living with HIV to have an elective (or emergency) C-section. These include diabetes; problems that arise during delivery, such as failure to progress in labor; fetal distress; breech births; low-lying placenta (placenta previa) or a placenta that has prematurely separated from the uterus.

To perform a C-section, a doctor inserts a needle into the woman's spine and injects morphine. This causes numbness from the waist down, allowing the doctor to make a long incision under the belly button to remove the baby.

Some experts do not like the idea of C-sections used solely to reduce the risk of mother-to-child HIV transmission. Because C-sections are a type of surgery, there are risks of infection and other complications. In fact, women living with HIV may be at a higher risk for infection or other complications than HIV-negative women undergoing C-section delivery. It is also important to remember that combination HIV treatment might do a better job of stopping transmission than a C-section. According to some studies, in HIV-positive pregnant women who have an undetectable viral load at the time of birth, the risk of delivering a baby infected with the virus is less than two percent, even with vaginal delivery. Again, it is not known if C-sections reduce this risk any further.

C-sections are an option, not a requirement. No patient should ever be forced to have a surgical procedure. A pregnant woman living with HIV has the right to refuse a C-section.

What about breast-feeding?

Breast milk carries HIV too, and breast-feeding adds considerable risk of transmission. As with transmission via blood, there's some indication that risk increases along with viral load (the amount of HIV in the mother's blood). So far, research shows that the risk of breast milk transmission is highest in the first six months of life. However, there's no threshold or point beyond which it becomes absolutely safe to breast-feed.

Wherever clean water and formula are available, it's recommended that HIV-positive women exclusively formula feed their infants. A handful of studies have looked at breast milk pasteurization, a procedure that allows women to express their breast milk and treat it themselves so that it becomes safe for their infants to drink. Right now, these studies have been done in resource-poor settings; your doctor may have more information about this strategy.

A study reported in July 2009 found that women taking antiretroviral therapy were far less likely to pass on HIV to their infant through breastfeeding. The risk didn't go down to zero, but it was substantially decreased. However, the DHHS guidelines recommend that women do not breast feed their babies.

What else can I do?

Take good care of yourself and gets lots of support. Support can mean a lot of different things, but it definitely means having someone to talk to—someone who can listen, who won't judge you and your decisions, and will help you figure out what to do when things get murky. This could be a

counselor, family member, partner or friend. Ideally, it will be a collection of these folks.

Look for a team of people to work with you: a good OB/GYN and an HIV specialist, and possibly a case manager who will help you navigate whatever benefits and services you need during and after your pregnancy. Find a nutritionist who can help you satisfy your cravings—and will also help you to eat right. And talk to other positive mothers about their experiences. Be sure you have a plan for yourself and the baby so you're prepared after the birth.

Taking great care of yourself while you're pregnant is important—but it's just as important that you pay attention to yourself after your baby is born. Lots of women have trouble keeping to their pill schedules once the whirlwind of nursing and feeding and cleaning begins. It's fine to stop all your drugs. Just discuss it with your doctor first. Or, you may want to switch to a simpler regimen. Just remember, your health matters too. Look for ways to make things more manageable—for instance, some clinics are set up so that you and your baby can have doctor's visits on the same day.

Most importantly, do whatever you need to feel good about yourself. Trust your instincts. Take time to pamper yourself. You—and your baby—are worth it.

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