Ways HIV is Transmitted

HOW IS HIV PASSED FROM ONE PERSON TO ANOTHER?

Most people get or transmit HIV through one of the following ways:

- Anal sex
- Vaginal sex
- Sharing needles, syringes, or other drug ejection equipment
- Perinatal transmission (from birthing parent to child during pregnancy, birth, or breastfeeding)

Not every exposure to HIV carries the same risk and some activities are riskier than others. Many factors increase or decrease HIV risk. In addition, there are many effective ways you can reduce your risk of getting or transmitting HIV. Read more about HIV prevention.

WHAT BODY FLUIDS TRANSMIT HIV?

Only certain body fluids from a person who has HIV can transmit HIV. These fluids include

- Blood
- Semen (cum)
- Pre-seminal fluid (pre-cum)
- Rectal fluids
- Vaginal fluids
- Breast milk

These fluids must come in contact with a mucous membrane or damaged tissue or be directly injected into the bloodstream (from a needle or syringe) for transmission to occur. Mucous membranes are found inside the rectum, vagina, penis, and mouth.

SEXUAL ACTIVITIES

Some sexual activities are riskier than others for getting or transmitting HIV. The most common way to get or transmit HIV through sexual activity is from having anal or vaginal sex without using protection (condoms or medicines like PrEP and PEP). There is extremely low to no chance of getting or transmitting HIV through activities such as oral sex, touching, and kissing.

Anal Sex

Anal sex is when a penis is inserted into an anus. The person inserting the penis is called the insertive partner (top) and the person receiving the penis is called the receptive partner (bottom).

If you don't have HIV, receptive anal sex is the riskiest type of sex for getting HIV from others. If you do have HIV, insertive anal sex is the riskiest type of sex for transmitting HIV to others. Although receptive anal sex is much riskier for getting HIV than insertive anal sex, both partners (the top and bottom) can get HIV from this type of sex.

If you do not have HIV and you have receptive anal sex with someone who does have HIV, HIV in semen (cum) and pre-seminal fluid (pre-cum) can enter your body through the mucus membranes that line the rectum. The lining of the rectum is very thin, which is why receptive anal sex is the riskiest type of sex for getting HIV.

The insertive partner is also at risk because HIV can enter the body through the opening at the tip of the penis (urethra), the foreskin if the penis is not circumcised, or small cuts, scratches, or sores on the penis.

Vaginal Sex

Vaginal sex is when a penis is inserted into a vagina. The person inserting the penis is called the insertive partner (top) and the person receiving the penis is called the receptive partner (bottom). Either partner can get or transmit HIV during vaginal sex. Most people assigned female at birth (AFAB) who get HIV get it from receptive vaginal sex.

If you do not have HIV and you have receptive vaginal sex with someone who does have HIV, HIV in semen (cum) and pre-seminal fluid (pre-cum) can enter your body through the mucus membranes that line the vagina and cervix.

The insertive partner is also at risk because HIV can enter the body through the opening at the tip of the penis (urethra), the foreskin if the penis is not circumcised, or small cuts, scratches, or sores on the penis.

Remember!

There are several things to keep in mind about the risk of getting or transmitting HIV during sexual activity:

- HIV is found in pre-seminal fluid (pre-cum). This means that there's a risk for either partner to get HIV even if the insertive partner withdraws before ejaculating. Withdrawal before ejaculation may reduce the receptive partner's risk of getting HIV, but it does not change the insertive partner's risk.
- Insertive partners can get HIV from anal and vaginal sex. HIV can enter the body through the opening at the tip of the penis (urethra), the foreskin if the penis is not circumcised, or small cuts, scratches, or sores on the penis.
- There is some evidence that circumcision decreases the insertive partner's risk of getting HIV or other sexually transmitted infections (STI) during anal or vaginal sex. Circumcision does not decrease the receptive partner's risk.
- The risk of getting HIV from sexual activity is much higher if either partner has other STIs.
- A person with HIV who is on antiretroviral treatment (ART) with an undetectable viral load has effectively no risk of transmitting HIV through sexual activity. Read more about viral suppression and U=U or Undetectable = Untransmittable.

SHARING NEEDLES, SYRINGES, OR OTHER DRUG INJECTION EQUIPMENT

You are at high risk for getting HIV if you share needles, syringes, or other drug injection equipment (for example, cookers) with someone who has HIV. Never share needles or other equipment to inject drugs, hormones, steroids, or silicone.

Used needles, syringes, and other injection equipment may have someone else's blood on them, and blood can carry HIV.

People who inject drugs (PWID) are also at risk for getting HIV (and other STIs) because they may engage in risky sexual behaviors like having sex without protection (condoms or medicines like PEP and PrEP).

You're also at risk for getting hepatitis B virus (HBV), hepatitis C virus (HCV), and other infections if you share needles, syringes, or other injection equipment.

PERINATAL TRANSMISSION

HIV can be transmitted from a parent to their baby during pregnancy, birth, or breastfeeding. However, it is less common because of advances in HIV prevention and treatment. This is called perinatal transmission or parent-to-child transmission. Perinatal transmission is the most common way that children get HIV.

Recommendations to test all pregnant people for HIV and start HIV treatment immediately have lowered the number of babies who are born with HIV.

If a person with HIV takes ART daily as prescribed throughout pregnancy and childbirth and gives HIV medicine to their baby for 4-6 weeks after giving birth, the risk of transmitting HIV to the baby can be less than 1%.

WHAT ARE SOME RARE WAYS THAT HIV HAS BEEN TRANSMITTED?

There is very little to no risk of getting or transmitting HIV from the activities below. For transmission to occur, something very unusual would have to happen.

Oral sex

- Oral sex involves putting the mouth on the penis (fellatio), vagina (cunnilingus), or anus (rimming).
- If you or your partner has other STIs, genital sores, oral ulcers, or bleeding gums, the risk of getting or transmitting HIV from oral sex is increased.
- You can get other STIs from oral sex.
- If you get feces in your mouth during rimming, you can get hepatitis A virus (HAV), HBV, parasites like Giardia, and bacteria like Shigella, Salmonella, Campylobacter, and E. coli.

Workplace

- The most likely cause of workplace transmission is being stuck with a contaminated needle or other sharp object.
- Careful practice of standard precautions protects patients and healthcare personnel from possible occupational exposure.

Medical care

- The U.S. blood supply and organs and tissues that are donated are thoroughly tested, so it is very unlikely that you would get HIV from blood transfusions, blood products, or organ and tissue transplants.
- You cannot get HIV from donating blood. Blood collection procedures are highly regulated and safe.

Biting

- Each of the very few documented cases has involved severe trauma with extensive tissue damage and the presence of blood.
- Transmission can occur when there is contact between broken skin, wounds, or mucous membranes and blood or body fluids mixed with the blood of a person who has HIV.
- There is no risk of transmission if the skin is not broken.

Deep, open-mouth kissing

- Although very rare, transmission can occur if both people have sores or bleeding gums and blood from the partner with HIV gets into the bloodstream of the other person.
- HIV is not transmitted through closed-mouth or social kissing with someone who has HIV.
- HIV is not transmitted through saliva.

Two people who are assigned female at birth (AFAB)

- Case reports of transmission of HIV between 2 AFAB people are rare.
- Vaginal fluids and menstrual blood may carry the virus and exposure to these fluids through mucous membranes (in the vagina or mouth) could potentially lead to HIV infection.

Tattoos and Body Piercings

- There are no known cases in the U.S. of anyone getting HIV this way.
- However, it is possible to get HIV from tattooing or body piercing if the equipment used for these procedures has someone else's blood on it or if the ink is shared. This is more likely to happen when the person doing the procedure is unlicensed because of the potential for unsanitary practices such as sharing needles or ink.
- If you get a tattoo or a body piercing, be sure that the person doing the procedure is properly licensed and that they use only new or sterilized needles, ink, and other supplies.

WAYS THAT HIV IS NOT TRANSMITTED

HIV does not survive long outside the human body (such as on surfaces) and it cannot reproduce outside a human host. HIV is not transmitted by:

- Mosquitoes, ticks, or other insects
- Saliva, tears, or sweat
- Hugging, shaking hands, sharing toilets, sharing dishes, or closed-mouth or social kissing with someone who has HIV
- Other sexual activities that don't involve the exchange of body fluids (for example, touching)
- In the air

WHAT INCREASES THE RISK OF HIV TRANSMISSION?

An active case of syphilis or herpes simplex virus (HSV) increases the amount of HIV in someone's system and can make it easier for them to pass it on to another person. Syphilis causes large, painless sores that make it easy to get or transmit HIV. HSV also causes sores which assist infection with HIV.

Several other factors increase the risk of getting or transmitting HIV.

- **When the person with HIV is in the acute infection phase**, the amount of virus in their blood is very high. This increases the chance that they can pass on the infection. Unfortunately, almost no one knows when they are in this phase of HIV infection. There's no way to tell by looking at them. Getting tested is the only way to know for sure.
- **When the person who does not have HIV has a weakened immune system**. This could be because of a long-term illness or an active infection like an HSV outbreak, syphilis, or the flu.
- **When either person has open sores** that get exposed to infected fluids. These could be oral or genital HSV, mouth ulcers, syphilis sores, or other cuts or breaks in the skin.
- **When the uninfected insertive male partner is not circumcised.**

Read more about factors that increase the risk of HIV transmission.

WHAT CAN YOU DO?

Many things can increase or decrease your risk of getting or transmitting HIV.

- Not having sex is a 100% effective way to make sure you don't get or transmit HIV.
- If you're sexually active and do not have HIV, you can lower your risk by using condoms the right way every time you have sex and/or taking medicine every day to prevent HIV (pre-exposure prophylaxis or PrEP).
- If you do have HIV, you can lower your risk of transmitting HIV to others by using condoms the right way every time you have sex. You can effectively eliminate your risk of transmitting HIV to others by getting on ART and reducing your viral load to undetectable. When your viral load is undetectable, you will not transmit HIV to others through sexual activity, perinatal transmission, or needle/syringe use.
- If you inject drugs, follow safe injection guidelines and never share needles, syringes, or other injection equipment with others.

THE BOTTOM LINE

Most people who get HIV get it through anal or vaginal sex, sharing needles, syringes, or other drug injection equipment (for example, cookers), and through perinatal transmission.

The best way to avoid getting or transmitting HIV is to use a condom correctly and consistently for all sexual activity, avoid sharing needles, syringes, and other injection equipment, and take daily ART as prescribed if you have HIV. If you think you have been exposed to HIV, talk to your health care provider **immediately.** Ask whether you can use HIV treatments to prevent infection.

MORE INFORMATION

HIV.gov: Preventing Sexual Transmission of HIV

HIV.gov: Preventing Mother-to-Child Transmission of HIV

HIV.gov: How Can Using Drugs Put Me at Risk for Getting or Transmitting HIV?

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