

LAMBDA Volume 28: Issues 3 & 4



HIV Panic, Part II

Part II: Sexual Transmission and Public Health

by Trevor Hoppe

Note: This is Part II in a 2--part series on the Domestic HIV Epidemic. You can read Part I [here](#).

Although most people today understand that hugging an HIV-positive person will not put them at risk, many still have misconceptions about transmission in the bedroom. One important myth to dispel is that women frequently act as agents of transmission. In fact, research shows that HIV in the United States is overwhelmingly transmitted from men to other men and from men to women. This is because it is much more difficult for women to infect men or other women than it is for men to infect their sexual partners. Women simply don't typically release emissions that carry high viral loads. Yes, it's possible for a woman to infect a man or another woman during sexual intercourse. But is it very likely? No.

The fact of the matter is that HIV is most easily transmitted sexually via anal intercourse from the penetrator to the penetrated. This is because the lining of the rectum is one cell thick while the lining of the vaginal wall is considerably thicker. Thus, tearing occurs much more easily during anal intercourse – especially without lubricant. These tears are prime sites for the virus to infiltrate the human body. Coupled with this is the greater presence of lymphoid tissue in the rectum versus the vagina. This tissue is a vital pathway into the body for HIV. Without it, the virus would have a much more difficult time successfully infecting its target. Thus, more passionate or aggressive penetration isn't the only factor that makes for risky anal intercourse. The virus can be (and often is) transmitted through vaginal intercourse. But human anatomy makes anal intercourse more risky.

Some of the most surprising data on HIV transmission concerns the difficulty of becoming infected during certain sexual activities. Even the highest-risk sexual behavior carries a relatively low probability of transmission. For HIV-negative receptive partners during unprotected anal sex with known positive partners, there is about a 1 in 120 change of becoming infected. For HIV-negative “tops,” the risk unprotected anal sex per encounter with an HIV-positive bottom is about 1 in 1,600. While these per-encounter risks are relatively low, the aggregate annual risk that an average person encounters is significantly higher. It's important to keep in mind, however, that these data are for sexual encounters with known HIV-positive partners. The risks for transmission during encounters with partners of unknown HIV status are lower.

The most confusion, however, typically surrounds oral sex. Different people will come to different conclusions on whether oral sex poses a risk for transmission. The answers vary because the issue is complex. The human mouth is a very inhospitable place to the virus. Enzymes in saliva readily inactivate the virus, and any ejaculate that finds its way to your stomach will be destroyed by stomach acid (though HIV has been isolated from saliva in the laboratory, this is extremely rare and not very probable). However, at any given moment your mouth has a

number of small cuts that could act as potential infection sites. For the virus to find its way from the penis to such a cut, though, it must survive the numerous obstacles within the mouth. For this to happen without taking ejaculate into the mouth, it would almost certainly take a male partner with an extremely high viral load. However, it must be pointed out that even when ejaculate is taken into the mouth, the risk of becoming infected from a positive partner is relatively low. For example, the per-incidence risk of a “giving” male partner becoming infected from an HIV-positive “receiving” male partner is about 1 in 2,500. The risk for oral sex performed on a positive female partner is even lower.

These statistics can be complicated by other factors, however. Though the virus can be transmitted during sexual intercourse, HIV outside the body is fairly innocuous. I could pour a vial of the virus over my healthy fingers without worrying about becoming infected. The problems occur when wounds and other lesions disrupt the skin. This is part of the reason why the risk of HIV transmission increases in the presence of another sexually transmitted disease – especially syphilis, a bacterial disease that causes open sores ripe for HIV infection. Health officials pay close attention to even minor outbreaks of syphilis for precisely this reason; they can easily lead to an increase of new HIV infections.

Seroconversion and Viral Loads

When discussing HIV infection, scientists use the word “seroconversion” to describe the moment when the body begins to produce HIV antibodies. When a person seroconverts, their viral load increases rapidly and peaks at a level higher than what remains for the majority of the person’s life. This high of a viral load is not seen again in the course of the infection until the last period of infection called Full Blown AIDS, which often precedes death.

Exposure to a single instance of the virus is not enough to infect a healthy individual. Over the course of evolution, the human body has developed immune responses and protections that combat a certain level of viral infection. Studies show that a critical viral mass of HIV is needed to infect a healthy person. In other words, if a positive person with a viral load below that critical number has sexual intercourse with a negative person, the risk of infection drops dramatically below what it would be if their viral load exceeded that level. Thus, many researchers believe that new HIV infections are on the decline in certain communities because of protease inhibitors (a main component of medication for people living with HIV) that are able to decrease viral loads, often to undetectable levels. It becomes more difficult for the virus to spread when these powerful drugs keep its numbers in check.

This is important when thinking about how HIV spreads. If high viral loads dramatically increase transmission rates, then it would seem that those two points during the HIV infection with the highest viral loads would be the times that the virus is most easily transmitted. While this is technically true, it isn’t practically useful information. This is due to the fact that when a person’s viral loads are so high, the body reacts with a powerful immune response. This experience is something similar to an acute flu infection. In short, it wipes you out. People often say that HIV has no symptoms at first – but this isn’t entirely true. It’s just that the initial flu-like infection (which lasts for a few days) is often mistaken for an actual flu infection. Thus, the moment that HIV-positive people are the most likely to infect others is the moment when they’re experiencing these unpleasant symptoms. This may cause some concern for IV-drug transmission, but it’s doubtful that one would be interested in having sex when one can barely get out of bed.

During the course of a “normal” HIV infection, the viral load follows somewhat of a pattern, as described above. However, other STDs complicate matters. As mentioned previously, STDs that cause open sores are an important factor for increased transmission risk, but this isn’t the whole story. The other reason lies in the increased viral loads of HIV in people infected with other STDs. HIV-positive people who are simultaneously infected with another STD carry higher viral loads than those without other infections. This is yet another important reason for vigilance when monitoring STD outbreaks other than HIV. New scientific studies are also revealing that drug use can increase viral loads as well, and may even speed up the course of the HIV infection.

A Call for Informed Dialogue

No one seems to be interested in discussing the reality of the HIV epidemic in the United States. Images of African countries being ravaged and freak cases of infection by nontraditional methods dominate our understanding of the disease. While it is important for the United States to help tackle the debilitating epidemic in other countries, it is equally important for us to understand the epidemic in our own country. Moreover, within our community much of what we hear is from alleged “safe sex” campaigns that often do more to scare queer men away from sex than to encourage them to play safely. Healthy sex campaigns must be sex-positive and must be founded on solid data and scientific knowledge, or we can expect to see more panic and side effects such as the “bug chasers.”

I want to stress the fact that I am not interested in promoting unsafe sex – consistent condom use is vital to keeping HIV on the decline. Heavy drug use (namely crystal methamphetamine) and the subsequent risky sexual behavior some men are engaging in are threatening to destroy the progress our community has made toward eliminating the virus from the community. I do not want to belittle the threat that HIV poses to our community. That said, I am interested in the facts – specifically those that aren’t being discussed. No one seems interested in telling you that if you use protection consistently, regularly get tested for HIV and other STDs, and communicate honestly and openly with your sexual partners, there is no reason why you cannot lead an active sexual life free from fear of contracting HIV. Can condoms break? Yes. Can the virus be transmitted during oral sex? Yes. But the gap between possibility and probability has been skewed, and when dealing with a virus like HIV, we cannot afford to wallow in ignorance.

Editor’s Note: Trevor Hoppe is a senior Political Science major and Sexuality Studies minor. He would like to thank Professor David Halperin from the University of Michigan for assistance with this article.

LAMBDA Magazine

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