

The risk of getting HIV varies widely depending on the type of exposure. Some exposures, such as exposure to HIV during a blood transfusion, carry a much higher risk of transmission than other exposures, such as oral sex. For some exposures, risk of transmission, while biologically plausible, is so low that it is not possible to provide a precise number.

Different factors can increase or decrease transmission risk. For example, taking antiretroviral therapy (i.e., medicines for HIV infection) can reduce the risk of an HIV-infected person transmitting the infection to another by as much as 96%<sup>1</sup>, and consistent use of condoms reduces the risk of getting or transmitting HIV by about 80%<sup>2</sup>. Using both condoms and antiretroviral therapy reduces the risk of HIV acquisition from sexual exposure by 99.2%<sup>3</sup>. Conversely, having a sexually transmitted infection or a high level of HIV virus in the blood (which happens in early and late-stage infection) may increase transmission risk.

The table below lists the risk of transmission per 10,000 exposures for various types of exposures.

## Estimated Per-Act Probability of Acquiring HIV from an Infected Source, by Exposure Act\*

Type of Exposure	Risk per 10,000 Exposures
<b>Parenteral<sup>3</sup></b>	
Blood Transfusion	9,250
Needle-sharing during injection drug use	63
Percutaneous (needle-stick)	23
<b>Sexual<sup>3</sup></b>	
Receptive anal intercourse	138
Insertive anal intercourse	11
Receptive penile-vaginal intercourse	8
Insertive penile-vaginal intercourse	4
Receptive oral intercourse	low
Insertive oral intercourse	low
<b>Other<sup>4</sup></b>	
Biting	negligible <sup>4</sup>
Spitting	negligible
Throwing body fluids (including semen or saliva)	negligible
Sharing sex toys	negligible

\* Factors that may increase the risk of HIV transmission include sexually transmitted diseases, acute and late-stage HIV infection, and high viral load. Factors that may decrease the risk include condom use, male circumcision, antiretroviral treatment, and pre-exposure prophylaxis. None of these factors are accounted for in the estimates presented in the table.

<sup>4</sup> HIV transmission through these exposure routes is technically possible but unlikely and not well documented.

<sup>1</sup> Cohen MS, Chen YQ, McCauley M, et al; HPTN 052 Study Team. Prevention of HIV-1 Infection with early antiretroviral therapy. *N Engl J Med* 2011;365(6):493-505.

<sup>2</sup> Weller SC, Davis-Beaty K. Condom effectiveness in reducing heterosexual HIV transmission (Review). The Cochrane Collaboration. Wiley and Sons, 2011.

<sup>3</sup> Patel P, Borkowf CB, Brooks JT. Et al. Estimating per-act HIV transmission risk: a systematic review. *AIDS*. 2014. doi: 10.1097/QAD.0000000000000298.

<sup>4</sup> Pretty LA, Anderson GS, Sweet DJ. Human bites and the risk of human immunodeficiency virus transmission. *Am J Forensic Med Pathol* 1999;20(3):232-239.