

# How STDs increase the risk of becoming infected with HIV

September 5 2008

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Individuals who have a sexually transmitted disease (e.g., genital herpes, gonorrhea, syphilis, and chlamydia) and women with yeast and bacterial vaginal infections have an increased risk of becoming infected with HIV if exposed to the virus through sexual contact.

Although several explanations have been proposed, exactly how and why STDs have this effect has not been clear. Now, Teunis B.H. Geijtenbeek and colleagues, at VU University Medical Center, The Netherlands, have described a way in which STDs can increase acquisition of HIV-1 infection in an ex vivo human skin explant model that they hope might be amenable to therapeutic modulation to prevent HIV transmission.

In the ex vivo human skin explant model, although immature immune cells known as Langerhans cells (LCs) captured HIV, they did not efficiently transmit the virus to T cells, something that is essential for the initiation of full disease. By contrast, efficient virus transmission was observed if LCs were activated by inflammatory stimuli.

As the infectious agents that cause the STDs thrush and gonorrhea triggered the same inflammatory stimuli in vaginal and skin explants, the authors suggest that in the presence of an STD-causing infectious agent, LCs might become activated, thereby increasing an individual's risk of becoming infected with HIV. Further, these data suggest that antiinflammatory therapies might provide a way to prevent HIV transmission.

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Source: Journal of Clinical Investigation

Citation: How STDs increase the risk of becoming infected with HIV (2008, September 5)  
retrieved 9 April 2024 from <https://medicalxpress.com/news/2008-09-stds-infected-hiv.html>

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