

# Transmission of human immunodeficiency virus type 1: risk factors for seroconversion in men

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## **Abstract:**

To determine the frequency and risk factors for female to male sexual transmission of human immunodeficiency virus type 1 (HIV-1), a prospective study was carried out in 422 men who had acquired a sexually transmitted disease (STD) from a group of prostitutes with a prevalence of HIV-1 infection of 85%. The initial seroprevalence of HIV among the men was 12%. 24 of 293 (8.2%) initially seronegative men seroconverted to HIV-1. Newly acquired infection was independently associated with frequent prostitute contact (risk ratio 3.2, 95% confidence interval 1.2-8.1), with the acquisition of genital ulcer disease (risk ratio 4.7, 95% confidence interval 1.3-17.0), and with being uncircumcised (risk ratio 8.2, 95% confidence interval 3.0-23.0). 96% of documented seroconversions occurred in men with one or both of the latter two risk factors. In a subgroup of 73 seronegative men who reported a single prostitute sexual contact, the frequency of HIV-1 infection was 8.2% during 12 weeks of observation. No man without a genital ulcer seroconverted. A cumulative 43% of uncircumcised men who acquired an ulcer seroconverted to HIV-1 after a single sexual exposure. These data indicate an extremely high rate of female to male transmission of HIV-1 in the presence of STD and confirm a causal relation between lack of male circumcision, genital ulcer disease, and susceptibility to HIV-1 infection.