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Why circumcision reduces HIV risk

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The decreased risk of HIV infection in circumcised men cannot be explained by a reduction in sores from conditions such as herpes, according to research published in *PLoS Medicine*.

In further analyses of data from 2 clinical trials including more than 5,000 men in rural Uganda, which had shown that circumcision reduced the risk of HIV infection in men by about 60%, Ron Gray of the Johns Hopkins Bloomberg School of Public Health and colleagues investigated factors associated with that reduction in risk. Specifically, they investigated whether infection with HSV-2, the virus that causes genital herpes, and whether genital ulcers of any cause, could account for the lower rates of HIV infection in the circumcised study participants.

The researchers found that reduction in symptomatic genital ulcer disease accounted for only about 10% of the protective effect associated with circumcision, and did not find any consistent role for HSV-2 in counteracting protection. These results indicate that most of the reduction in HIV acquisition provided by male circumcision may be explained by the removal of vulnerable foreskin tissue containing HIV target cells. They also suggest that circumcision reduces genital ulcer disease primarily by reducing the rate of ulceration due to causes other than herpes, including sores caused by mild trauma during intercourse.

More information: Gray RH, Serwadda D, Tobian AAR, Chen MZ, Makumbi F, et al. (2009) Effects of Genital Ulcer Disease and Herpes Simplex Virus Type 2 on the Efficacy of Male Circumcision for HIV Prevention: Analyses from the Rakai Trials. *PLoS Med* 6(11): e1000187.

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