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Male Circumcision Prevents Acquisition of Herpes Simplex Virus type 2 (HSV-2) Infection in HIV-Negative Men in Rakai, Uganda

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**Abstract**

**Background:** Three recent clinical trials have demonstrated that male circumcision significantly reduces HIV acquisition and the occurrence of genital ulcer disease. The objective of this study was to assess the efficacy of male circumcision for the prevention of herpes simplex virus type 2 (HSV-2) genital infections.

**Methods:** 6,396 uncircumcised men aged 15-49 were previously enrolled into two trials of male circumcision for HIV and STI prevention, in Rakai, Uganda. Of these individuals, 3393 were HIV and HSV-2 antibody negative. 1,684 were previously randomized to receive immediate circumcision and 1,709 to receive circumcision 24 months later. HSV-2 and HIV testing, physical examination and interviews were conducted at baseline and at 6, 12, and 24 months.

**Results:** Baseline and follow-up characteristics of men in the intervention and control groups were similar at enrollment. In the intention-to-treat analysis, HSV-2 incidence was 4.13 cases per 100 person-years in the intervention group compared with 5.65 cases per 100 person-years in the control group. The efficacy of intervention was 27% (95% CI 7-42;  $p=0.011$ ) by intention-to-treat analysis. HSV-2 incidence was lower in the intervention group than the control group in almost all sociodemographic, behavioral, and sexually transmitted disease symptom subgroups. The incidence of HIV was 0.77% among men who remained HSV-2 negative during the trial and increased to 3.57% among men who acquired HSV-2 during the trial ( $p < 0.001$ ).

**Conclusions:** Male circumcision significantly reduced HSV-2 acquisition, and this effect may influence the protective effect of circumcision on HIV acquisition and clinical genital ulcer disease.