BACKGROUND: Limited data are available on whether sampling from the penile shaft or urethra increases detection of penile HPV infection in men beyond that found in the glans and coronal sulcus.

METHODS: Within a randomized clinical trial, a validation study of penile sampling was conducted in Kisumu, Kenya. Young men (18-24 years) were invited to provide penile exfoliated cells using prewetted Dacron swabs to determine the best site for HPV detection. beta-Globin gene PCR and HPV DNA type GP5+/6+ PCR status were ascertained from 3 anatomical sites.

RESULTS: A total of 98 young HIV-seronegative, uncircumcised men participated. Penile HPV prevalence varied by anatomical site: 50% in penile exfoliated cells from the glans, coronal sulcus, and inner foreskin tissue; 43% in the shaft and external foreskin tissue; and 18% in the urethra (P < 0.0001). For each anatomical site, over 87% of samples were beta-globin positive. Beyond that found in the glans/coronal sulcus, urethral sampling resulted in no increase in HPV positivity and shaft sampling resulted in an additional 7.3% of overall HPV positivity. The prevalence of high-risk HPV positivity varied by anatomical site: 39% in glans/coronal sulcus, 31% in shaft, and 13% in the urethra (P < 0.0001). HPV 16 was the most common type identified.

DISCUSSION: Penile HPV prevalence was approximately 50% among young men in Kisumu, Kenya. Urethral sampling for HPV detection in men added no sensitivity for HPV detection over that found from sampling the glans/coronal sulcus and penile shaft. These data will help inform studies on HPV transmission dynamics, and on the efficacy of HPV prophylactic vaccines on penile HPV carriage in men.