

What's the Best Anal Cancer Screening Strategy for People With HIV?

Two tests appear to be better than one for accurately detecting anal cancer.

August 21, 2024 By [Liz Highleyman](#)

Cytology screening (Pap tests) combined with human papillomavirus (HPV) testing more accurately detects anal cancer in people with HIV with less need for follow-up high-resolution anoscopy, according to study results presented at the [International AIDS Conference \(#AIDS2024\)](#).

People living with HIV—especially gay, bisexual and other men who have sex with men—are at much greater risk for anal cancer compared with the general population. Anal cancer is usually caused by HPV—especially the high-risk types 16 and 18—which triggers abnormal cell growth (dysplasia) that can progress from precancerous changes (intraepithelial neoplasia or squamous intraepithelial lesions) to invasive cancer if left untreated.

In July, the federal government's [guidelines for the management of opportunistic infections](#) were updated for the first time to [include recommendations on anal cancer prevention](#) for people living with HIV. According to the new guidelines, older HIV-positive adults should be regularly assessed for signs of anal cancer, and those with symptoms or abnormalities should receive more intensive screening. The algorithm includes recommendations for anal cytology screening, with or without HPV testing, if [high-resolution anoscopy](#) (HRA)—which uses a magnifying scope to examine the anal canal—is available.

The new recommendation is supported by evidence from [the ANCHOR study](#), which enrolled more than 10,700 HIV-positive men and women ages 35 and older who received anal cytology screening and HRA. More than half were found to have high-grade squamous intraepithelial lesions (HSIL), and they were randomly assigned to receive either immediate treatment or regular monitoring. The trial showed that screening for precancerous lesions and treating them promptly lowered the risk of progression to anal cancer by more than half.

This past January, the International Anal Neoplasia Society (IANS) [released guidelines](#) for anal cancer screening among high-risk groups. They recommend screening starting at age 35 for HIV-positive men who have sex with men and transgender women, and at age 45 for other people with HIV and for HIV-negative gay and bisexual men and trans women. These guidelines outline various screening strategies involving anal cytology, testing for high-risk HPV or both.

In the study presented at AIDS 2024, Michael Gaisa, MD, of Icahn School of Medicine at Mount Sinai in New York City, and colleagues compared the effectiveness of anal screening strategies in a large cohort of adults living with HIV. The analysis included 1,620 people screened at Mount Sinai between 2012 and 2019. Most (90%) were men who have sex with men, and the median age was 45 years.

The participants were screened using one of five strategies. Those suspected of having anal precancer or cancer were referred for HRA and HRA-guided biopsy.

- Anal cytology alone
- High-risk HPV testing alone
- Cytology followed by HPV testing if results are abnormal
- High-risk HPV testing followed by cytology if positive
- Simultaneous cytology and HPV co-testing.

Using biopsy-proven HSIL as an endpoint, the researchers calculated the sensitivity, specificity, positive predictive value, negative predictive value and number of HRA referrals triggered by each screening strategy.

Overall, 42% of participants were found to have HSIL. High-risk HPV testing alone was most sensitive (96%) for detecting anal cancer when present, but it was the least specific for ruling out cancer in people who didn't have it (27%), and it triggered the most HRA follow-up referrals (83%). HPV testing followed by cytology and cytology followed by HPV testing had similar sensitivity (85%) and specificity (47%-48%) and yielded the fewest HRA referrals (66%-67%). Co-testing also had similar performance metrics.

The researchers concluded that all the screening strategies outlined in the IANS guidelines “demonstrate comparable effectiveness” in detecting anal precancer or cancer among people living with HIV. However, combining cytology and high-risk HPV testing—either together or sequentially—“proves more effective” than cytology or HPV testing alone. In particular, incorporating HPV testing substantially increases specificity and results in a reduced number of HRA referrals, which is “a critical consideration” given limited HRA capacity even in high-resource settings.

“I think we need better screening strategies and potentially additional biomarkers to identify people who are at the highest risk, because the infrastructure is just so dire,” in the United States and even more so in low- or middle-income countries, Gaisa said.

On that point, a study [published recently in JAMA Network Open](#) used data from the Medical Monitoring Project and a supplemental survey of HRA availability to estimate that 31,200 HIV-positive people at highest risk for anal cancer had abnormal anal cytology results in 2019. If all

HIV-positive people at highest risk were tested with the same distribution of results, the estimate rose to 422,888. But an estimated 124,386 people with abnormal results would have no access to follow-up HRA through their HIV care facility.

“Given the limited supply of clinicians who can perform HRAs and the number of potentially HRA-eligible persons, HRA capacity may be the rate-limiting factor in precancer treatment among people with HIV,” Sun Hee Rim, PhD, MPH, of the CDC’s Division of Cancer Prevention and Control, and colleagues concluded.

In an [accompanying editorial](#), Gregory Barnell, NP, and Matthew Schechter, MD, of Kaiser Permanente Northern California, estimated that 870 new clinicians trained to do HRA would be needed to do one procedure per patient per year nationwide.

Unequal geographic access to HRA is a concern, they noted. As of April 2022, there were 181 HRA sites in the U.S. and Puerto Rico, but 47% of these are located in just five states: California (25 sites), New York (25 sites), Florida (15 sites), Maryland (9 sites) and Massachusetts (9 sites). Seventeen states have no HRA sites and five states have just one. What’s more, anal cancer screening “does not have an obvious medical home,” falling within the realms of gynecology, infectious diseases and HIV, gastroenterology, sexual health and others.

“Unlike cervical, breast, colorectal and prostate screening, no single specialty will be primarily responsible for expanding these services, and demand for care is likely to precede sufficient access,” they wrote. “In the market-driven health care system, sufficient access will lag training resources, programmatic support and adequate reimbursement.”

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