Anal Cancer Screening for People at High Risk

The incidence of anal cancer in the general U.S. population is estimated to be 1.5 cases per 100,000 persons in men and 1.9 in women. This number is much higher in HIV positive people – an estimated 80 cases per 100000 HIV positive men and 30 cases in every 100000 HIV positive women. Rates are highest in HIV positive men who have sex with men. In addition, African American men are at higher risk than men of other races.

What causes anal cancer?

In the U.S., 80% of anal cancers are of the squamous cell type, which are primarily caused by the human papilloma virus (HPV). Risk factors for developing anal cancer include:

- Anal receptive intercourse
- Multiple sexual partners (or partners with multiple partners)
- History of sexually transmitted disease
- Anal condyloma (warts)
- Immunosuppression, such as that experienced by HIV positive individuals, also increases risk.

While anal intercourse without using condoms is thought to increase risk, it is important to remember that using condoms does not completely protect against HPV transmission, which is possible with any genital-to-genital contact. Condoms do reduce the genital area exposed, and therefore likely reduce, but not eliminate, the risk of transmission.

Do all HPV infections cause anal cancer?

There are over 100 strains of HPV, with 12-15 of these considered "high risk" for causing cancer. Several "low risk" strains are the cause of genital or anal warts, but will not cause cancer. Millions are infected with HPV every year, but in most cases, the person’s own immune system is able to fight off the infection. People with suppressed immune systems, such as those with HIV, are at highest risk of not clearing the infection. Of those who become chronically infected with a high-risk HPV strain, only a small number will actually develop a cancer, but screening may help to lower this number even more.

What screening tests are available?

Anal Cytology

- Also known as an anal Pap smear, this test collects cells from the anus for examination in a lab.
- The test is done with the individual lying on his side, legs bent. A swab (similar to a Q-Tip) is inserted a few inches into the anus and rubbed against the side of the bowel where the anus and rectum meet in order to gather cells from that area. The swab is either used to make a slide or it is put into a liquid preservative for transport to the laboratory. The pathologist examines the specimen under a microscope, looking for any abnormalities in the cells.
- Individuals are asked to not use an enema or to insert anything in the rectum for 24 hours before the exam. Lubricants should not be used before the test because they can interfere with the results – so the swab must be performed before a digital rectal exam.

Digital Anal Rectal Exam

- The healthcare provider uses their gloved finger to feel the wall of the anus to detect any lumps, warts or ulcerations.

High Resolution Anoscopy

- In anoscopy, the healthcare provider inserts a small plastic tube into the anus. This allows them to better visualize the
anus with the naked eye.

- In high resolution anoscopy, a special microscope called a colposcope is used to view the anus through the plastic tube.
- If an abnormal area is seen, it can be biopsied with these tools.

What can screening tests detect?

Anal cytology can detect abnormal lesions or pre-cancerous lesions in the anus. Results are generally reported as:

- High-grade squamous intraepithelial lesions or HSIL. These are moderate to severe abnormalities (dysplasia). These can progress to cancer over time. However, this happens in only 1 of every 1000 people with HSIL.
- Low-grade squamous intraepithelial lesions or LSIL. These are mild abnormalities (dysplasia). These very rarely turn into cancer.
- Squamous cell cancer. Both HSIL and LSIL describe abnormal areas on the top of the skin in the anus, with HSIL being more abnormal. Once the abnormality spreads below the top layer, it is considered anal cancer.
- Atypical squamous cells of undetermined significance, or ASCUS. These cells appear abnormal, but are not necessarily pre-cancerous and can be a result of another cause, such as infection or inflammation.

Who should have screening?

There are no official guidelines for anal cancer screening, but experts agree screening those at high risk will help prevent anal cancer or detect it early. An anal Pap smear is recommended for men who have sex with men, every 1-2 years for those who are HIV positive and every 2-3 years for HIV negative men. Many experts recommend anal Pap testing for HIV positive women and women with a history of cervical dysplasia as well.

What follow-up care do I need after screening?

These screening tests allow the practitioner to examine and test (through cytology) for any abnormal growths or masses. The required follow-up care depends on the result of these tests and the person’s HIV status. For some abnormalities, follow up will require repeat cytology testing a few months later. Some people with HSIL results will require treatment of the abnormal areas. Treatments can include topical medications, cryotherapy (freezing the area), laser therapy, and surgery.

While only a very small number of people with abnormal cytology will progress to an anal cancer, providers have no way of knowing who will progress to cancer. Close monitoring of individuals with abnormalities helps to detect any cancers early, when it is most treatable.

To read more about understanding your results and follow up care, see the UCSF Anal Dysplasia Clinic website.

Resources for More Information

UCSF Anal Dysplasia Clinic website

Anal Cancer, HIV and Gay/Bisexual Men - National LGBT Cancer Network

Resources for More Information: Anal Cancer

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