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# Anorectal Carcinoma Screening in Gay Men: Implications for Nurse Practitioners

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*Although the overall prevalence of anorectal carcinoma is relatively low in the general population, the rate is much higher in gay men. Nurse practitioners (NPs) working in primary care or infectious disease practices are in a unique position to increase detection of anorectal carcinoma in gay men through the application of proper screening techniques—in particular, anal Papanicolaou (Pap) cytology screening. This article examines the NP role in screening for anorectal carcinoma in gay men. Data regarding the prevalence of this disease are presented, along with techniques for completing a thorough health history, performing a physical examination, and obtaining an anal cytology Pap smear.*

The prevalence of anal carcinoma in the general US population is estimated at 0.9 cases per 100,000 persons.<sup>1</sup> Among men who have sex with men, however, this rate may be as high as 35 per 100,000 persons.<sup>2-4</sup> This rate mirrors that of carcinoma of the uterine cervix before widespread implementation of cervical Pap screening.<sup>4</sup>

Although the precise etiologic mechanism for the increased development of anal carcinoma in gay men is unknown, research supports a link between ongoing sexual exposure to the human papillomavirus (HPV) and the development of anal cancer.<sup>5</sup> Data indicate that gay men have an increased number of lifetime sexual partners and episodes of receptive anal intercourse.<sup>6</sup> Also, more and more gay men have been participating in a greater number of sexual risk-taking behaviors of late, perhaps because of HIV/AIDS “burnout” (a return to unsafe sexual practices resulting from an overproliferation of prevention messages), low self-esteem, lack of peer support, and lack of access to preventive services.<sup>7</sup> Sexual risk-taking behaviors increase opportunities for sexually transmitted



infections (STIs), including HIV and HPV, both of which have higher rates in gay men than in heterosexual men.<sup>3,8</sup> Current data indicate that between 60% and 75% of men who have sex with men are infected with HPV.<sup>8</sup>

Receptive anal intercourse can provide a mechanism for infection with HPV; subtypes 16, 18, 31, 33 and 35 of the virus are associated with neoplasia.<sup>9</sup> Other anal-insertive sexual practices among gay men may also be risk factors for anal carcinoma.<sup>10</sup> In addition, HIV infection is associated with a greater risk of HPV exposure and consequent infection.<sup>5</sup> Of note, 71% of all newly diagnosed cases of HIV/AIDS involve men who have sex with men.<sup>11</sup>

Annual anal Pap screening in high-risk populations is predicted to be both cost effective and clinically effective.<sup>9,12</sup> For example, screening with anal Pap tests every 2 years in patients with early HIV disease (CD4 cell counts >0.50 x 10<sup>9</sup>/L) resulted in a 2.7-month gain in quality-adjusted life expectancy (incremental cost-effectiveness ratio of \$13,000/quality-adjusted year of

life saved).<sup>12</sup> When implementing such screening annually in HIV-positive gay men, the incremental cost per adjusted year of life saved was \$16,600, which is similar to that of other preventive health screenings such as cervical Pap screening in women.<sup>9,12</sup>

### Approaching the Topic of Sexual Orientation

Up to 10% of the US population may not be heterosexual or exclusively heterosexual.<sup>13</sup> Although some clinicians may have difficulty discussing issues related to human sexuality, they need to ascertain patients' sexual orientation to help prevent illnesses for which they are at increased risk (eg, anorectal carcinoma in gay men).

Most researchers suggest that practitioners ask about patients' sexual orientation as directly as possible: "Do you have sexual relationships with men, women, or both?"<sup>14,15</sup> Using the term sexual preference is not recommended because this term may imply that patients made a choice regarding their sexual orientation;<sup>16</sup> in addition, the term says

nothing about sexual behavior. Questions or comments that may be construed as judgmental are inappropriate, and questions based on flawed assumptions should be avoided.

### Screening Gay Men for Anorectal Carcinoma

**History Taking**—Along with identifying gay male patients' sexual orientation, NPs need to find out whether they engage in sexual activities that may increase their risk of developing anorectal carcinoma (Table).<sup>3,6,8,16,17</sup> During history taking, NPs should ascertain patients' use of safer-sex practices, frequency of anal intercourse, number of sexual partners over the past 12 months, consistency of condom use, history of STIs, HIV serum status, date of last HIV serum screening, frequency of HIV screening, prescription drug use, use of drugs in association with sexual practices, and use of illicit drugs and alcohol. The health history should also be specific regarding any changes in gastrointestinal (GI) function; NPs should inquire

TABLE RISK BEHAVIORS ASSOCIATED WITH INCREASED RISK FOR HPV INFECTION AND SUBSEQUENT DEVELOPMENT OF ANORECTAL CARCINOMA <sup>3,6,8,16,17</sup>	
Behavior	Rationale for Increased Risk
Anal-insertive practices (eg, "booty bumping," in which methamphetamine is inserted into the rectum before anal intercourse); anal intercourse without using a condom	Reduces mechanical barrier protections of anus/rectum
High number of sexual partners	Increases risk of exposure to HPV
High number of partners' sexual partners	Increases risk of exposure to HPV
Infection with HIV	Lowers immunosurveillance capacity and increases likelihood of developing infections and cancers
Methamphetamine use	Lowers efficacy of HAART in HIV+ males and increases likelihood of development of HPV infection

HPV = human papillomavirus; HAART = highly active antiretroviral therapy.

about bowel habits, passage of mucus and blood, abdominal pain, weight loss, and a personal or family history of GI disease.<sup>18</sup>

Research indicates that men infected with HIV, as compared with HIV-negative men, are at much higher risk for development of anorectal cancer.<sup>5</sup> HIV-positive men are more likely to have lower-functioning immune systems, making immunosurveillance of HPV and neoplasms less effective. Thus, although screening for anorectal carcinoma is paramount for all gay men, it is even more important for those infected with HIV.

For gay men, the greater number of sexual partners in the past 12 months, the greater the risk of contracting HPV, the precursor of anorectal carcinoma. Of note, although condom use should be encouraged and reinforced at each visit, no data support the efficacy of condom use in preventing HPV infection.<sup>19</sup> (Regardless, NPs should inquire about condom use during history taking because this practice does protect against HIV.<sup>19</sup>) In addition, some data support condom use as a potential reducer of HPV transmission by decreasing the surface area of exposure.<sup>17</sup> Data suggest that gay men have a greater number of sexual partners than do heterosexual men.<sup>6</sup> Therefore, NPs need to ask gay male patients about current and past sexual practices of their partners; data show that HPV transmission risk is greater among partners who have or have had multiple sexual partners.<sup>17</sup>

Other sexual practices among gay men need to be addressed during the health history. For example, insertion of methamphetamine (meth) into the rectum, a practice known as "booty bumping," is thought to be a potential risk factor

for anal carcinoma.<sup>10</sup> Meth use in general is more prevalent among gay men than among heterosexual men;<sup>16</sup> in addition, use of meth has been associated with suppression of highly active antiretroviral therapy in HIV-positive males, thereby increasing the risk of STIs, including HPV infection.<sup>16</sup> Although NPs need to obtain a history of patients' alcohol intake for other reasons, studies have not shown a link between alcohol use and unprotected anal intercourse,<sup>20</sup> and therefore, between alcohol use and an increased risk of HPV infection.

During history taking, NPs should establish patients' baseline knowledge about the availability of Pap cytology screening and identify psychosocial influences that might decrease the likelihood of their obtaining an annual anal Pap test. These influences include the perception of Pap cytology as a test for females only, apprehension about discussing issues related to sexuality with the NP, and knowledge deficits regarding the purpose of the Pap test. Although data assessing the impact of gay men's psychosocial influences on undergoing screening tests are lacking, NPs can still assess patients' knowledge deficits and misconceptions regarding Pap screening and educate them about the purpose, frequency, and effectiveness of the test.

Researchers vary in their recommendations regarding the frequency of Pap screenings among gay men, and no evidence-based recommendations have yet been made by any major health organizations. For now, both annual and biannual screenings have been shown to be cost-effective, particularly among HIV-positive gay men.<sup>12</sup>

**Physical Examination—**A thorough physical examination of

the anorectal area is necessary in patients in whom anorectal carcinoma is suspected or who may be at high risk for the disease. The physical exam may reveal gross lesions visible on the exterior surface of the anus.<sup>9</sup> However, visible findings are not always present in patients with anorectal carcinoma.<sup>9</sup> Other manifestations of the disease include a polypoid mass, or more commonly, a firm, nodular, rolled edge of an ulcerated malignancy. Diffuse peritoneal metastases from any source may develop in the area of the peritoneal reflection, just anterior to the rectum. A firm to hard nodular rectal shelf may be just palpable with the tip of the examining finger.<sup>21</sup>

Because anorectal carcinoma is not always detectable by inspection or palpation and may be asymptomatic, many cases are not diagnosed at an early stage.<sup>9</sup> Likelihood of detecting disease at an early stage can be enhanced by use of anal Pap cytology screening, which works in a fashion similar to that of cervical Pap testing in women.<sup>5,9</sup> Cells lining the anus share similar physiologic characteristics with those lining the uterine cervix.<sup>9</sup>

**Anal Pap Cytology Screening—**The technical procedure for obtaining an anal smear is similar to that of obtaining a cervical smear. NPs should use a Dacron cotton swab; wooden sticks are to be avoided because of their increased tendency to splinter and break.<sup>3</sup> Male patients are placed in the lateral recumbent position. Without direct visualization, the swab is inserted approximately 5 to 6 cm into the anal canal. NPs should apply direct, firm, lateral pressure on the swab handle while rotating and slowly removing it. By inserting the swab 5 to 6 cm

into the anal canal, NPs ensure that the transition zone, where columnar epithelial cells of the rectum separate from the keratinized cells of the anal mucosa, is sampled. Data suggest that most anal intraepithelial neoplasms arise from this zone.<sup>2</sup>

Liquid cytology, which eradicates the chance for artifact from drying and decreases the amount of fecal matter and bacteria that can interfere with interpretation of the cytologic sample, is the preferred preservation method.<sup>3</sup> Data also support air-drying and fixation as appropriate if liquid cytology is impossible; but these methods can increase mechanical artifact.<sup>2,3</sup> Pathologic screening for atypical squamous cells of undetermined significance (ASCUS) is essentially the same as that used to interpret HPV-related lesions of the cervix.<sup>3</sup> Patients whose anorectal screening results indicate ASCUS or higher should be referred to an anorectal specialist for anal colposcopy.<sup>3</sup> Although no studies have compared false-negative or false-positive findings of anorectal Pap tests with those of the cervix, problems with collection of adequate samples have been reported.<sup>2</sup>

## Implications

Future research should focus on psychosocial barriers that may be preventing some gay men from obtaining Pap screenings. In addition, researchers should assess clinicians' attitudes toward or knowledge about the use of the anal Pap test to screen for anorectal carcinoma in gay men. Advanced practice nursing curricula should emphasize the health disparities that exist for gay men compared with their heterosexual counterparts, specifically in terms of the

higher rates of HPV infection and anorectal carcinoma. In addition, cultural competency topics taught in graduate nursing education need to include applicable content areas regarding gay, lesbian, bisexual, and transgender individuals.

## Conclusion

Given the unique holistic relationships that NPs have with their patients, they are well positioned to promote cancer screening that reduces overall morbidity and mortality in high-risk populations. This article has focused on the higher prevalence of anorectal carcinoma in homosexual men, as well as etiologic considerations and the importance of annual Pap screening in this population. To screen gay men for anal carcinoma, NPs need to take a focused health history, perform a limited physical exam, and obtain an anal cytology sample. Although data suggest that anorectal carcinoma rates are increasing among gay men, NPs can reverse this trend and effectively reduce morbidity and mortality rates in this vulnerable population through diligent health promotion, prevention, and screening strategies. ■

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