

# Emerging Trends and Challenges in Anal Cancer Epidemiology and Screening

## The Crucial Role of HRA

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### Information

- Anal cancer is rare but rising, linked to growing numbers of high-risk individuals.
- HPV is a key cause of anal cancer, with certain behaviors and conditions, like anal intercourse and HIV, increasing HPV persistence and cancer risk.
- Awareness of anal cancer screening is low among doctors and the public, even as the need for it grows, especially among MSM.
- High-Resolution Anoscopy (HRA) is the top method for spotting early anal cancer signs, outperforming other tests like DARE and anal Pap smears.
- Recent research supports HRA's effectiveness, particularly in HIV-positive individuals, although it requires specialized training due to the anus's complex anatomy.

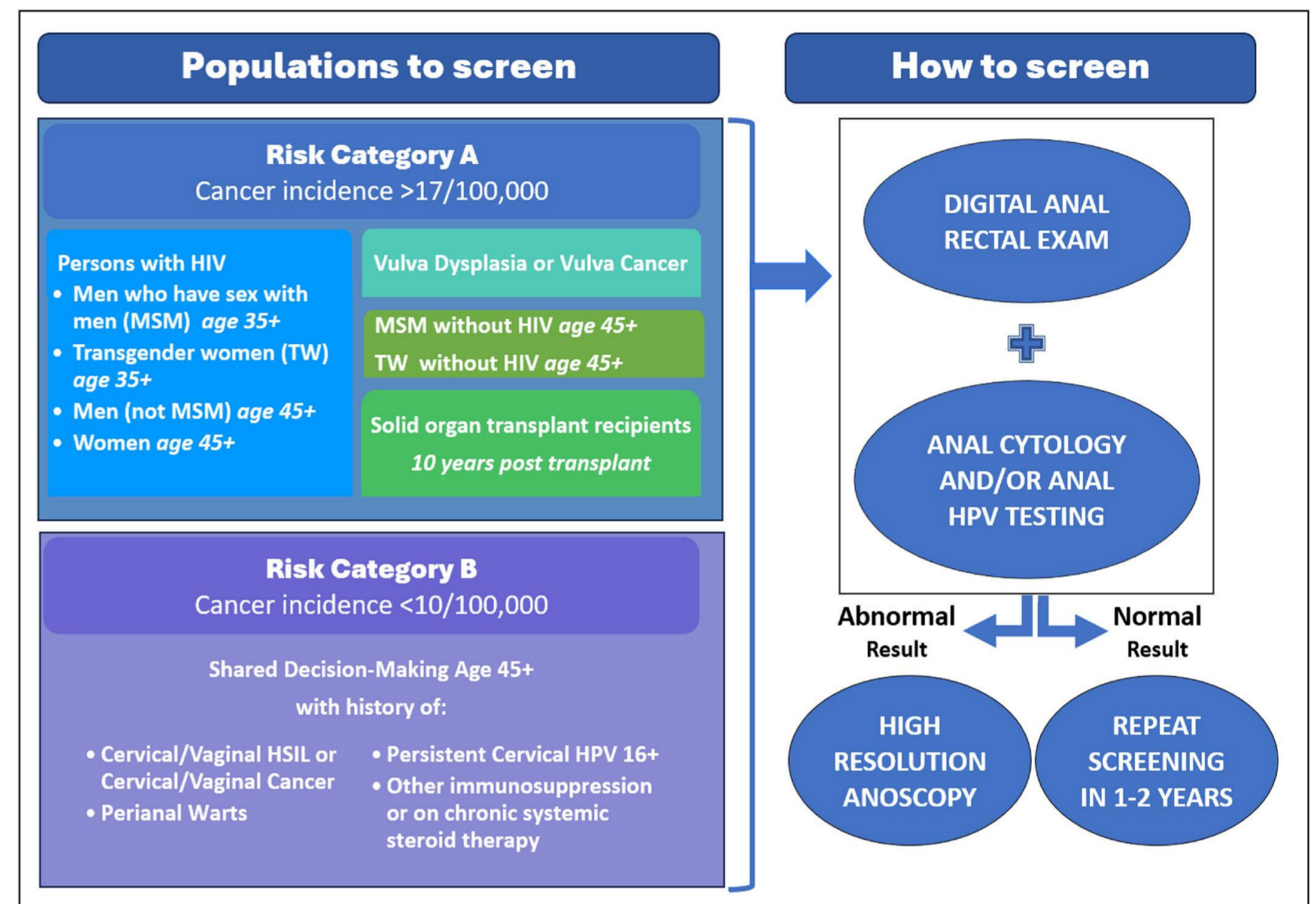


Fig 1 Guidelines for Anal Cancer screening

### Anal Cancer Screening and Prevention—A New Era, Limited by Access to High-Resolution Anoscopy

- Anal cancer screening and prevention are in their infancy, and the study by Rim et al. points out that the insufficiency of clinicians providing HRA might be a key factor limiting the increase in anal cancer screening and prevention.
- The landmark ANCHOR trial has shown that the incidence of anal cancer significantly decreases following HRA-based treatment of precancerous lesions. This news is encouraging; however, the reality, as estimated by Rim et al., is that a large high-risk population still lacks referral resources despite meeting the screening and HRA referral criteria.
- In the USA alone, adhering to recommendations could result in an additional 422,888 individuals requiring ASCC screening. However, the situation is concerning due to the lack of a systematic approach to address the shortage of well-trained HRA clinicians.
- A 2022 survey revealed the diversity of settings providing HRA, including standalone clinics, gynecology, infectious disease departments, etc., indicating that no single discipline or department is perfectly suited to lead the expansion of HRA services. This multidisciplinary nature provides opportunities for various specialties to expand their practice scope in different clinical settings, potentially facilitating rapid service growth.

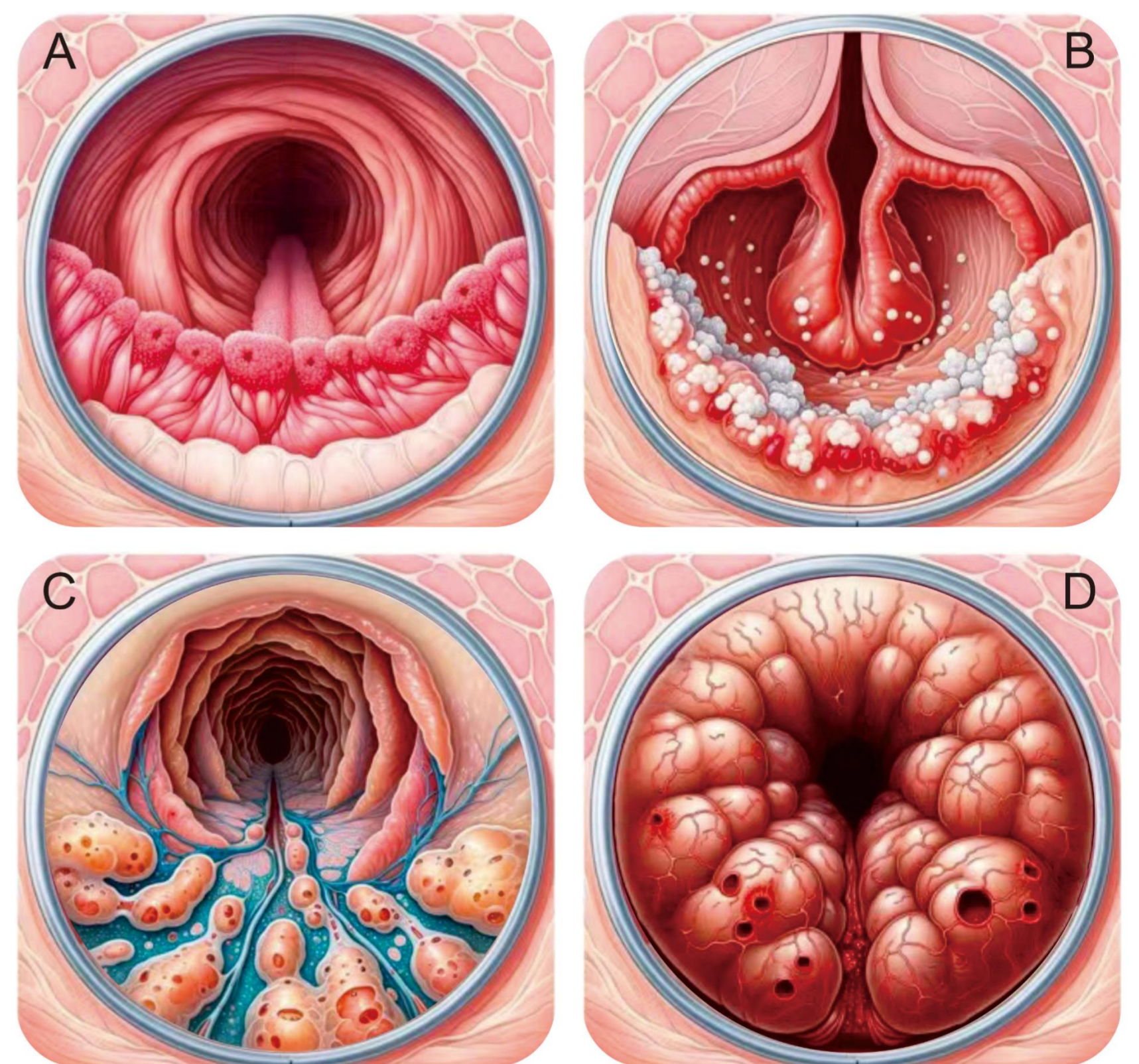


Fig 2 Observations of anal mucosa under HRA. A: Normal anal canal mucosa, B: LSIL, C: HSIL, D: Anal cancer.

### HRA is a more challenging examination compared to colposcopy.

- the clinician must hold the anoscope in position throughout the examination, adjusting where necessary, to fully visualize the entire AnTZ, including the SCJ, while refocusing and repositioning the colposcope as needed;
- the large surface area of the AnTZ, anal canal, and perianus, together with anatomical obstacles, such as mucosal folds and papillae, can be challenging to fully visualize;
- microscopic features helping to identify anal HSIL may be subtle, requiring higher magnification compared with the cervix, and can differ from those seen on the cervix;
- widespread, multifocal disease is often present;
- coexisting pathology may be present, such as condyloma, hemorrhoids, anal fissure, and fistula in ano;
- changes may be present from treatment-related scar tissue, strictures, and irradiation changes from previous radiotherapy—potentially adding complexity to the interpretation of patterns seen;
- the psychosocial and emotional state of the patient being examined may either facilitate or make the exam even more challenging.

### References

- G.M. Barnell, and M.S. Schechter, Anal Cancer Screening and Prevention—A New Era, Limited by Access to High-Resolution Anoscopy. JAMA network open 7 (2024) e240019.
- E.A. Stier, M.A. Clarke, A.A. Deshmukh, N. Wentzensen, Y.X. Liu, I.M. Poynten, E.N. Cavallari, V. Fink, L.F. Barroso, G.M. Clifford, T. Cuming, S.E. Goldstone, R.J. Hillman, I. Rosa-Cunha, L. La Rosa, J.M. Palefsky, R. Plotzker, J.M. Roberts, and N. Jay, International Anal Neoplasia Society's consensus guidelines for anal cancer screening. Int. J. Cancer (2024) 9.
- R.J. Hillman, T. Cuming, T. Darragh, M. Nathan, M. Berry-Lawthorn, S. Goldstone, C. Law, J. Palefsky, L.F. Barroso, E.A. Stier, C. Bouchard, J. Almada, and N. Jay, 2016 IANS International Guidelines for Practice Standards in the Detection of Anal Cancer Precursors. J. Low. Genit. Tract. Dis. 20 (2016) 283-291.
- Rim S H, Mona Saraiya, Linda Beer, Yunfeng Tie, et al. Access to High-Resolution Anoscopy Among Persons With HIV and Abnormal Anal Cytology Results. JAMA network open (2024) e240068.