To whom: just for HIV?

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No conflicts

Menu for today

- Generalities
- Who
- Start
- How Follow- When to Stop
- Conclusions

Guidelines: cervical cancer screening

Centers for Disease Control and Prevention
MMWR
Morbidity and Mortality Weekly Report
Recommendations and Reports / Vol. 70 / No. 4 July 23, 2021

TABLE 1. Cervical cancer screening and surveillance recommendations

Population	Screening specifics	Guideline group, yr of recommendation: USPSTF, 2018	ACOG, 2016	ACS, 2020
Persons at average risk	Age to start screening	21 yrs	21 yrs	25 yrs
Persons with an immunocompromising medical condition† (e.g., HIV infection or solid organ transplantation)	Age to start screening	No specific recommendation	Within 1 yr of onset of sexual activity or, if already sexually active, within the first year after HIV or other immunocompromising medical condition diagnosis but no later than age 21 yrs	
	Age to end screening		None; lifelong screening recommended	
Persons who have received HPV vaccination	No changes to the screening approaches above			

AEPCC Guías
ASOCIACIÓN ESPAÑOLA DE PATOLOGÍA CERVICAL Y COLPOSCOPIA

Este análisis indicó que, en las mujeres no vacunadas, resulta más coste-efectivo iniciar el cribado a los 30 años y finalizar a los 70 años, sustituyendo el cribado citológico por el cribado basado en la prueba VPH a los 35 años.

Los datos más recientes sugieren iniciar el cribado cervical a los 25 años[48]. Generalmente se recomienda realizar una citología anual a partir de los 25 años. En el caso de

Guidelines: anal cancer screening

CLINICAL GUIDELINES PROGRAM

NEW YORK STATE DEPARTMENT OF HEALTH AIDS INSTITUTE | HIV · HCV · SUBSTANCE USE · LGBT HEALTH

Screening for Anal Disease

- For all patients with HIV ≥35 years old, regardless of HPV vaccination status, clinicians should:
  - Inquire annually about anal symptoms, such as itching, bleeding, palpable masses or nodules, pain, tenesmus, or a feeling of rectal fullness. (A2)
  - Perform a visual inspection of the perianal [a] region. (A3)
  - Provide information about anal cancer screening and engage the patient in shared decision-making regarding screening, including anal cytology before DARE. (A3)
  - Perform DARE annually and whenever anal symptoms are present. (A*)
- For adults ≥35 years old who have HIV and are men who have sex with men (A3), transgender women (A3), women (B3), or transgender men (B3), clinicians should perform or recommend annual (A3) anal Pap testing to identify potentially cancerous cytologic abnormalities.
- Clinicians should promote smoking cessation for all patients with HIV, especially those at increased risk for anal cancer. (A3)
- For all patients with HIV ≥35 years old, clinicians should recommend and perform annual DARE to screen for anal pathology. (B3)
- Clinicians should evaluate any patient with HIV <35 years old who presents with signs or symptoms that suggest anal dysplasia. (A3)
- Clinicians should conduct HRA and histology (via biopsy) for any patient with LSILs or HSILs or refer as needed. (A2)
- For patients with anal cytology results indicating ASC-US, clinicians should perform HPV testing (A2):
  - If HPV testing is available and results are negative, repeat anal cytology in 1 year. (A3)
  - If HPV testing is available but reflex testing is not available, perform HPV test at follow-up within 6 months. (B2)
  - If positive for high-risk HPV or if HPV testing is not available, refer for HRA. (B2)
- Clinicians should refer patients with suspected anal cancer determined by DARE or histology to an experienced specialist for evaluation and management. (A3)
- Clinicians should discontinue screening for anal cancer when life expectancy is less than 10 years and in individuals with 2 consecutive negative anal cytology specimens who are not currently sexually active. (B3)

Centers for Disease Control and Prevention
MMWR
Morbidity and Mortality Weekly Report
Recommendations and Reports / Vol. 70 / No. 4
July 23, 2021

Sexually Transmitted Infections Treatment Guidelines, 2021

Cancers and Precancers Associated with Human Papillomavirus

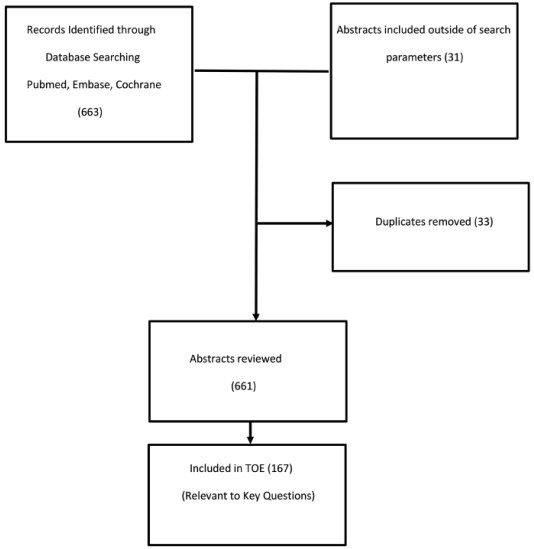
Persistent infection with high-risk (oncogenic) types of HPV has a causal role in approximately all cervical cancers and in certain vulvar, vaginal, penile, anal, and oropharyngeal cancers (*1238*). However, cervical cancer is the only HPV-associated cancer for which routine screening is recommended.

Anal cancer screening: who

Clinical Infectious Diseases
SUPPLEMENT ARTICLE

Anal Cancer Screening and Prevention: Summary of Evidence Reviewed for the 2021 Centers for Disease Control and Prevention Sexually Transmitted Infection Guidelines

Luis F. Barroso II,[1] Elizabeth A. Stier,[2] Richard Hillman,[3] and Joel Palefsky[4]



KEY QUESTION: WHICH GROUPS HAVE SUFFICIENT ANAL CANCER RISK TO CONSIDER SCREENING?

Summary

- Men who have Sex with Men (MSM) living with HIV have the highest anal squamous cell carcinoma (aSCC) incidence and represent the best studied high-risk group.
- All people living with HIV (PLWH) ≥ 35 years old have a substantially elevated aSCC risk and should be considered for anal cancer prevention interventions.
- Other risk groups include: Women with a history of HPV-associated genital cancers, solid organ transplant recipients, HIV negative MSM, and other immunocompromised persons without HIV infection.
- Anal cancer incidence increases as a function of age in all of the described groups.

- **Patients who do not fall into an increased risk category should not be screened for anal cancer.**

nº 154

Current guidelines recommendations for anal HPV-related disease screening

There is no consensus in national and international guidelines regarding anal HPV-related disease screening. Recommendations can be conflicting and with low strength of evidence (expert opinion in many cases).

GUIDELINES Organization and year issued	RECOMMENDATIONS	EVIDENCE
NYSDHAI 2020[6]	Anal cancer screening* annually for all HIV ≥ 35 years old, regardless HPV vaccine status.	A2 (inquiring), A3 (inspection), B3 (DARE)
	Informed and shared decision-making with patient regarding anal cytology.	A3
	For HIV <35 years old only if anal signs/symptoms.	A3
	HRA and biopsy if abnormal anal cytology.	A2
HIVMA/IDSA 2020[7]	Annual DARE. Anal cytology in PLWH (only if HRA available): - People with receptive anal intercourse - Abnormal cervical Pap test - Genital warts	Weak recommendation. Moderate quality evidence.
	HRA if abnormal cytology.	
	No recommendation regarding periodicity.	
DHHS Nov 2018[8]	No national recommendations exist for routine screening for anal cancer.	
	Some experts recommend anal cytology or HRA for PLWH.	C3
	Annual DARE.	B3
	If abnormal anal cytology HRA + biopsy if visible lesions.	B3
EACS 10.1 October 2020[9]	DARE +/- anal cytology in PLWH: - MSM, - persons with HPV-associated dysplasia (anal and/or genital).	Expert opinion.
	HRA if abnormal cytology.	
	Screening interval: 1-3 years.	
		A3
		B3
		B3
	atients mendations	Consensus or expert opinion.
		Not reported.
ASCRS 2018[13]	Anal cytology may be considered in high-risk population: PLWH, MSM, history of cervical dysplasia.	Weak recommendation. Moderate quality evidence.
	HPV testing may be used as an adjunct to screening for anal cancer.	
	HRA may be considered as a screening option for patients at high risk for cancer.	
ASTIDCP 2019[14]	Anal cytology in solid-organ transplant recipients if history of receptive anal intercourse, history of cervical dysplasia.	Weak recommendation. Low quality evidence.
	HRA if abnormal cytology.	
	Normal cytology repeated every 1-3 years.	

AIN: Anal Intraepithelial Neoplasia; HIV: human immunodeficiency virus; HPV: human papillomavirus; HRA: high-resolution anoscopy; MSM: men who have sex with men; PLWH: people living with HIV; DARE: digital anorectal examination.
Legend for Evidence Column:
A. Strong evidence, should always be offered. B. Moderate evidence, in general should be offered. C. Weak evidence, must be offered optionally. 1. Data from randomized clinical trials or metaanalysis; 2. Data from non-randomized trials or observational cohorts; 3. Expert opinion.

THE LANCET

RESEARCH ARTICLE VOLUME 343, ISSUE 8898, P636-639, MARCH 12, 1994

High incidence of anal cancer among AIDS patients

M Melbye, MD • T.R Coté, MD • R.J Biggar, MD • L Kessler, ScD • M Gail, MD • AIDS:Cancer Working Group •
Show footnotes

Published: March 12, 1994 • DOI: https://doi.org/10.1016/S0140-6736(94)92636-0

RESEARCH SUMMARY

Treatment of Anal High-Grade Squamous Intraepithelial Lesions to Prevent Anal Cancer

Palefsky JM et al. DOI: 10.1056/NEJMoa2201048

CLINICAL PROBLEM

Anal cancer is caused by human papillomavirus infection and is preceded by high-grade squamous intraepithelial lesions (HSIL). Whether treatment of anal HSIL reduces progression to anal cancer is unknown.

CLINICAL TRIAL

Design: A multisite, randomized, U.S. trial examined the efficacy and safety of HSIL treatment for the prevention of anal cancer in adults living with HIV, a group disproportionately affected by anal cancer.

Intervention: 4446 participants 35 years of age or older with HSIL and without a history of anal cancer received either HSIL treatment until complete resolution (e.g., office-based ablation, ablation or excision under anesthesia, or topical therapies) or active monitoring without treatment. Participants in the treatment group returned for high-resolution anoscopy at least every 6 months, suspicious lesions were biopsied, and recurrences were treated. Participants in the active-monitoring group underwent anoscopy every 6 months, and visible lesions were biopsied annually. The primary outcome was progression to anal cancer in a time-to-event analysis.

RESULTS

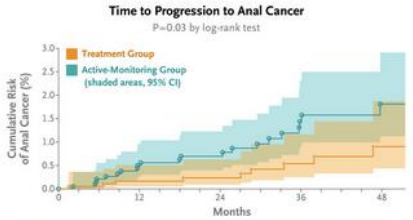
Efficacy: During a median follow-up of roughly 26 months, the rate of progression to anal cancer was significantly lower in the treatment group than in the active-monitoring group.

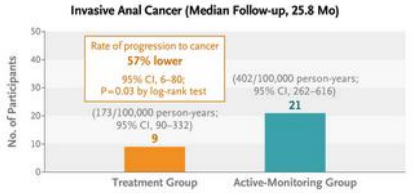
Safety: Trial-related serious adverse events were uncommon.

LIMITATIONS AND REMAINING QUESTIONS

- HSIL treatment did not prevent all cancers, which underscores the need for close follow-up and for more effective treatments.
- The results may not be generalizable to settings in which high-resolution anoscopy and treatment are performed by clinicians with less training and support.
- Additional research is warranted to improve screening algorithms for identifying anal HSIL.

Links: Full Article | NEJM Quick Take





CONCLUSIONS

Among adults living with HIV who had anal HSIL, treatment of HSIL reduced the risk of progression to anal cancer, with a low incidence of serious adverse events.

Anal cancer screening: who

A meta-analysis of anal cancer incidence by risk group: Toward a unified anal cancer risk scale

Gary M. Clifford[1] | Damien Georges[1] | Meredith S. Shiels[2] | Eric A. Engels[2] | Andreia Albuquerque[3,4] | Isobel Mary Poynten[5] | Alexandra de Pokomandy[6] | Alexandra M. Easson[7] | Elizabeth A. Stier[8]

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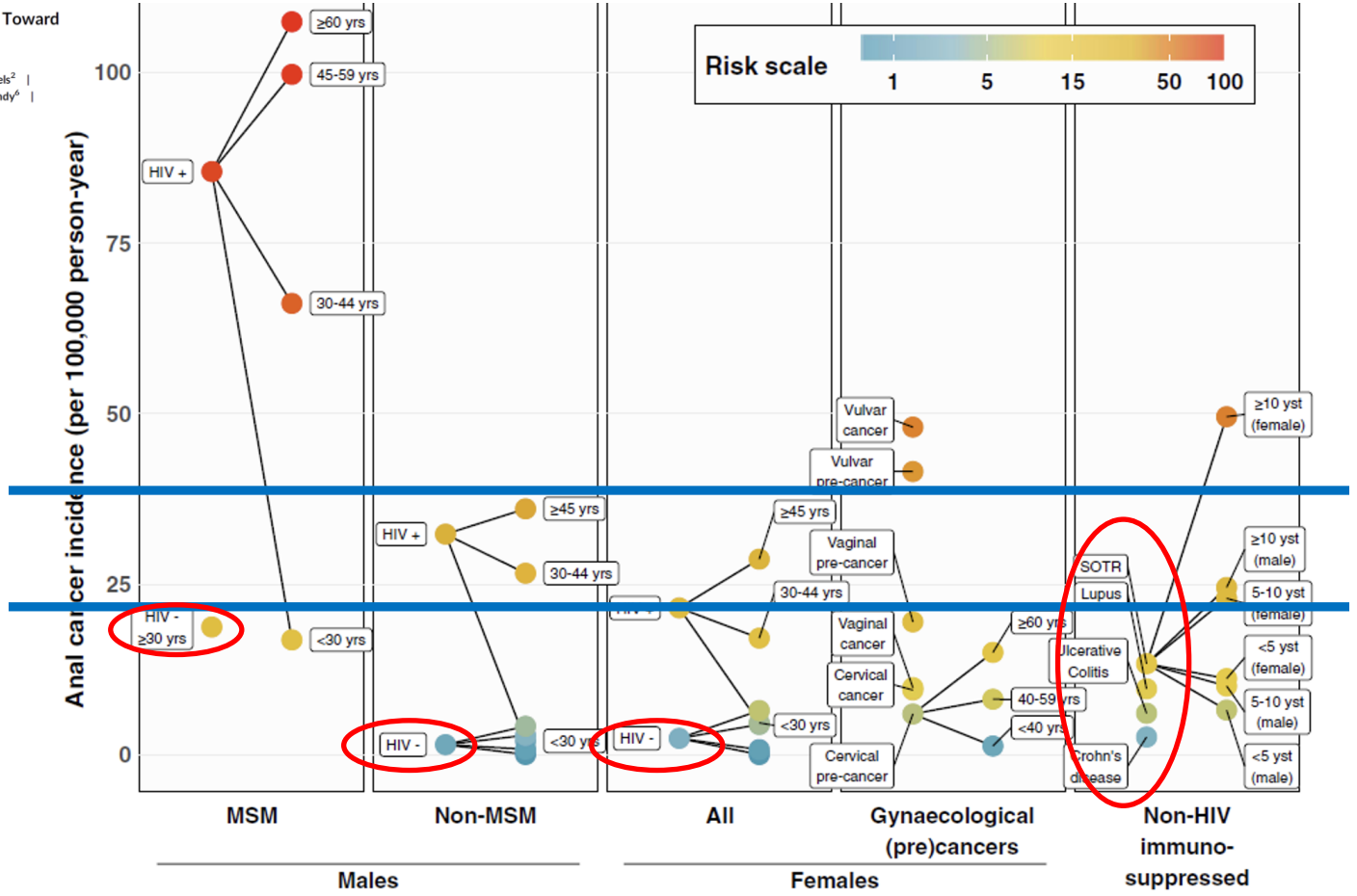


Int. J. Cancer. 2021

Anal cancer/HPV → natural history HIV-MSM→ 35 y

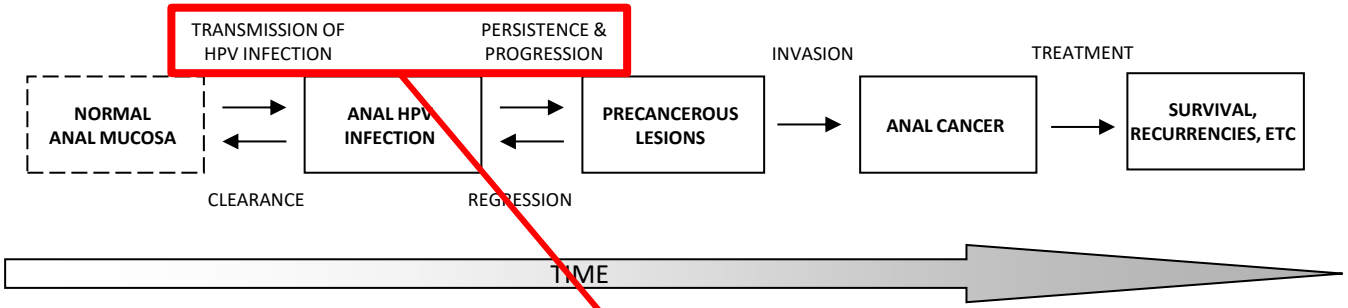


Table 3 Progression rates of anal intraepithelial neoplasia to squamous cell carcinoma

Progression	No. patients	Rate of progression	Median or average progression time	Ref.
AIN II/III to SCC	72	11%	42 mo	[33]
AIN III to SCC	35	8.6%	53 mo	[34]
AIN I to AIN III	199	12.6% (8.1/100 person-years)	18 mo	[35]
ASCUS/AIN I to AIN II/III	556	24.5% (10.5/100 person-years)	36 mo	[36]
HSIL to SCC	138	19.6%	57 mo. w/ prevalent HSIL; 64 mo. w/ incident HSIL	[37]

Persistent infection : **5 y**

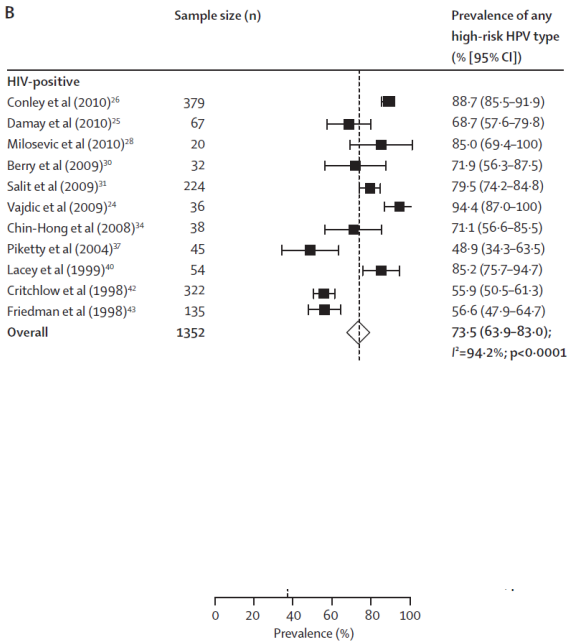
ASCUS/AIN-I→ SCC : **93 mo: 8 y**

~ 15 y (20→35)

Roberts JR, et al World Journal of Gastrointestinal Surgery 2016

HPV anal infection in MSM prevalence& several hr-HPV

Anal human papillomavirus infection and associated neoplastic lesions in men who have sex with men: a systematic review and meta-analysis



Lancet Oncol 2012; 13: 487–500

RESEARCH ARTICLE Open Access

Multiple human papillomavirus infections are highly prevalent in the anal canal of human immunodeficiency virus-positive men who have sex with men

Table 2 Summary of HPV

TOTAL (n)	HPV (n)	HPV16/HPV18* (N)	HPV16-HPV18 - (N)	HPV16+ (n)	HPV18+ (n)	HPV-
100% (324)	86.1% (279)	27.5% (89)	58.6% (190)	23.8% (77)**	7.4% (24)	13.9% (45)

Notes: *Patients were positive for HPV16 and/or HPV18. **There were 12 patients that were doubly infected by HPV type 16 and 18.

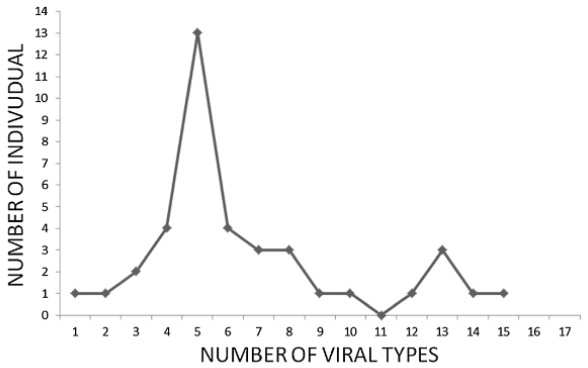


Figure 3 More than half of the patients have between 4 and 6 different viral types. The number of different viral types among individuals was determined as described in Methods

BMC Infect Dis 2014

Anal cancer screening: MSM no HIV

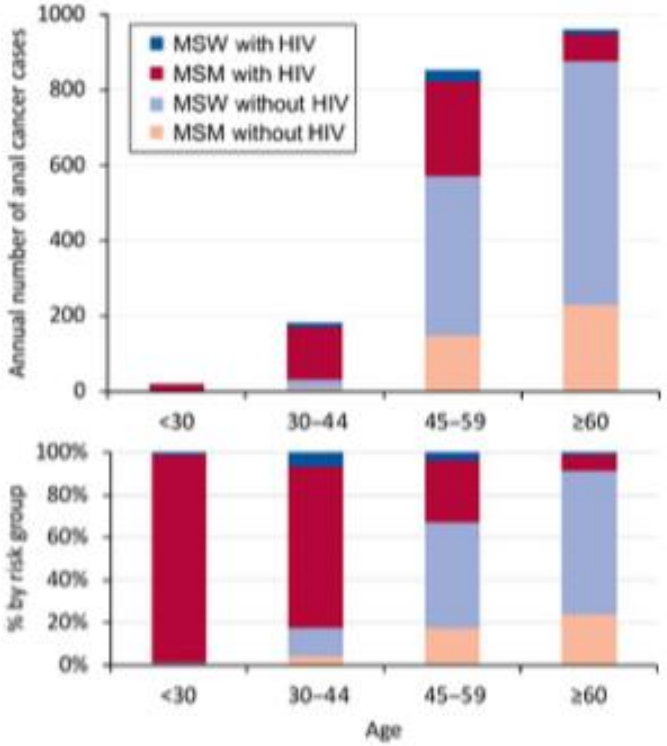
Human Papillomavirus-Associated Anal Cancer Incidence and Burden Among US Men, According to Sexual Orientation, Human Immunodeficiency Virus Status, and Age

Ashish A. Deshmukh,[1,a] Haluk Damgacioglu,[1,a] Damien Georges,[2] Kalyani Sonawane,[1,0] and Gary M. Clifford[2]

Age matters…

Anal cancer incidence (per 100 000) among MSM without HIV

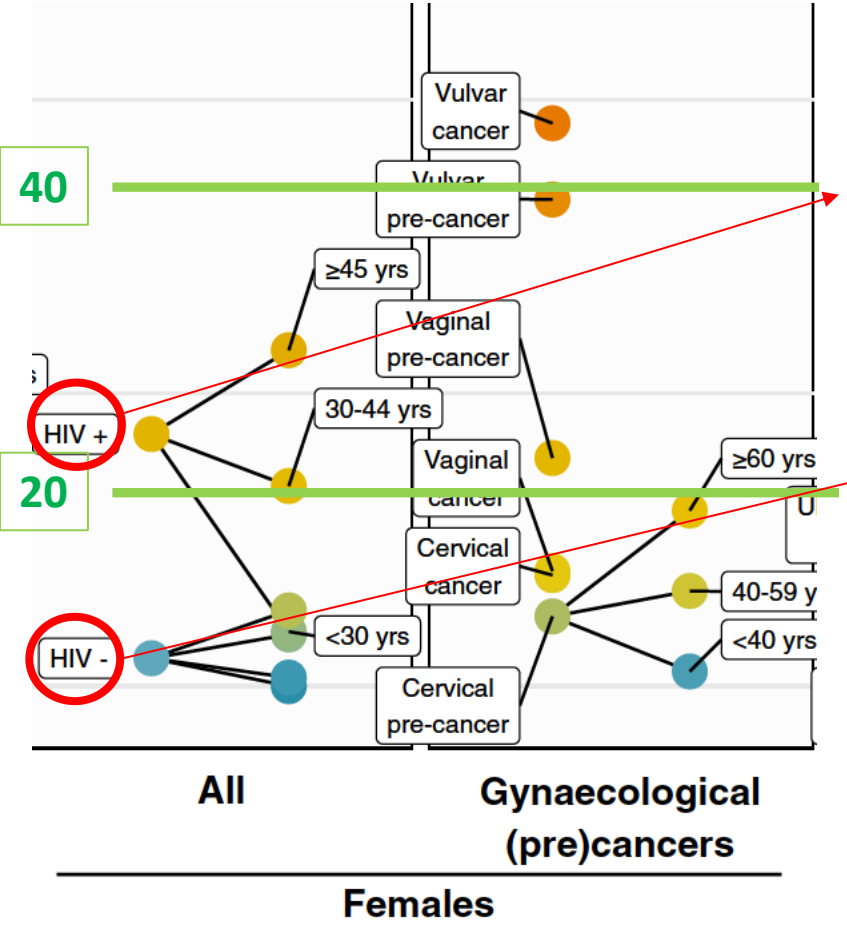
- 1.4 (0.6 to 2.3) → 30–44
- 17.6 (13.8–23.5) → 45–59
- 33.9 (28.3–42.3) → ≥60 years



MSW with HIV	1.2%	6.5%	3.7%	1.3%
MSM with HIV	97.6%	76.1%	29.4%	7.5%
MSW without HIV	1.1%	13.1%	49.6%	67.3%
MSM without HIV	0.1%	4.2%	17.3%	23.9%

CID 2023

Anal cancer screening: Women & gynecological HPV



→ KEY POINT

- The absence of HPV-related cervical disease in the genital tract does not eliminate the need to screen for anal dysplasia in women with HIV who are ≥35 years old.

cancers

Article

Natural History of Anal HPV Infection in Women Treated for Cervical Intraepithelial Neoplasia

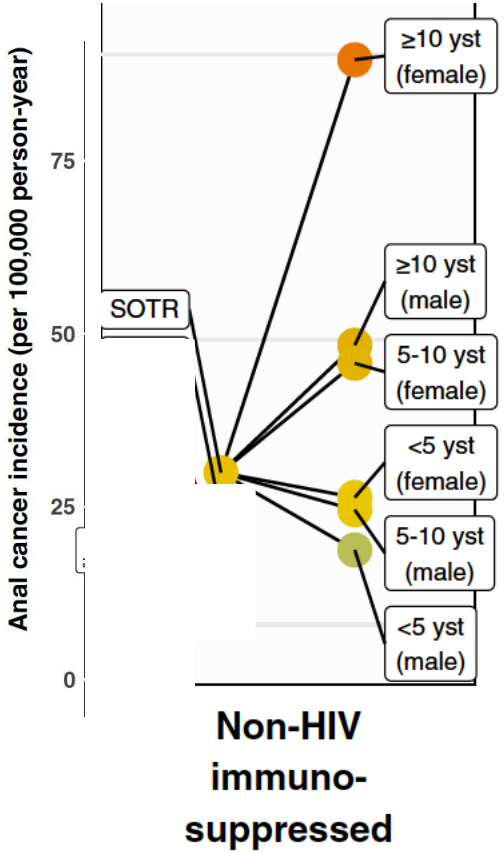
Marta del Pino [1,2,*], Isabel Matas [1], Pilar Carrillo [1], Cristina Martí [1], Ariel Glickman [1], Núria Carreras-Dieguez [1,3], Lorena Marimon [3,4], Adela Saco [3,4], Natalia Rakislova [3,4], Aureli Torné [1,2] and Jaume Ordi [3,4]

68 w non-HIV, treated HSIL/CIN

Persistent Anal HPV : 43%→ Anal HSIL : 34%

Cancer 2023. 2021

Factors to consider: SOT time:matters



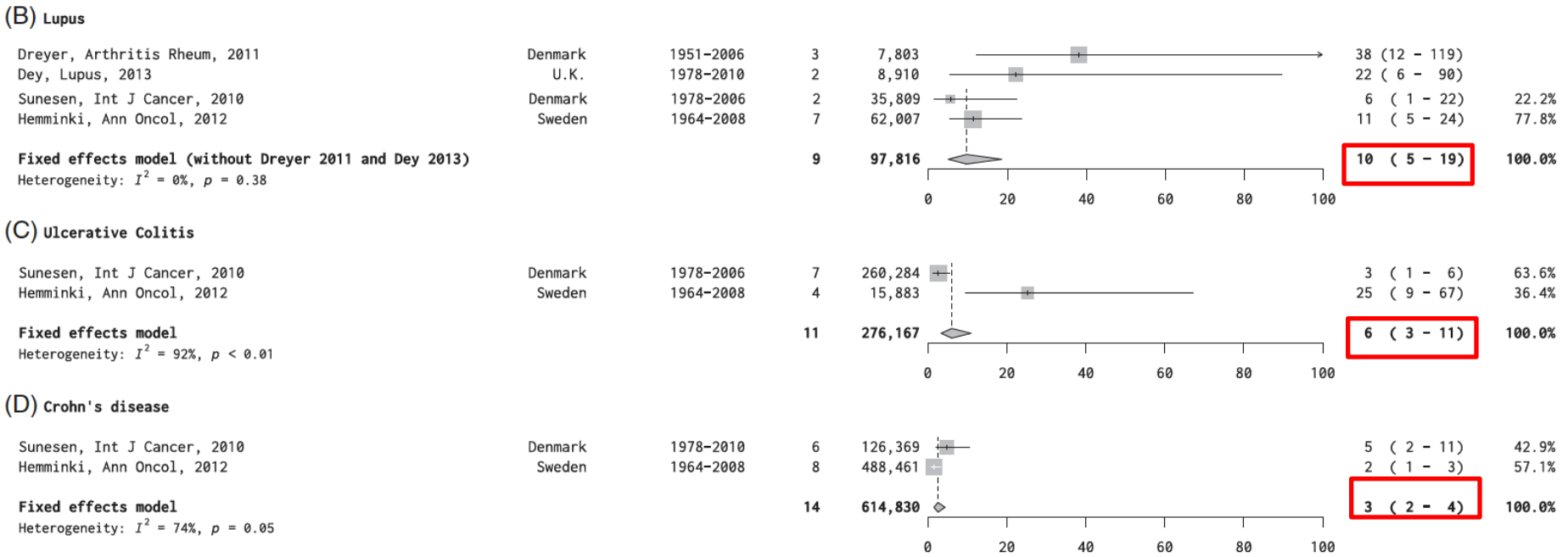
Consider YST and age for screening??

	Males			Females		
	Cases	Person-years	IR per 100 000 person-years (95% CI)	Cases	Person-years	IR per 100 000 person-years (95% CI)
All	99	1 050 327	9.4 (7.7-11.5)	128	676 462	18.9 (15.8-22.5)
Age group (y)						
<30	0	116 804	0.0 (0.0-3.2)	3	97 399	3.1 (0.6-9.0)
30-44	9	194 004	4.6 (2.1-8.8)	19	145 121	13.1 (7.9-20.4)
45-59	42	403 603	10.4 (7.5-14.1)	56	240 592	23.3 (17.6-30.2)
≥60	48	335 916	14.3 (10.5-18.9)	50	193 350	25.9 (19.2-34.1)
Years since transplant						
<5	3	657 746	6.5 (4.7-8.8)	46	412 509	11.2 (8.2-14.9)
5-9	8	278 346	10.1 (6.7-14.5)	42	183 231	22.9 (16.5-31.0)
≥10	8	114 235	24.5 (16.3-35.4)	40	80 722	49.6 (35.4-67.5)

Abbreviations: CI, confidence interval; IR, incidence rate.

Anal cancer screening: others… IBD, LES…

Few data to recommend routine screening??→ only if symptoms??

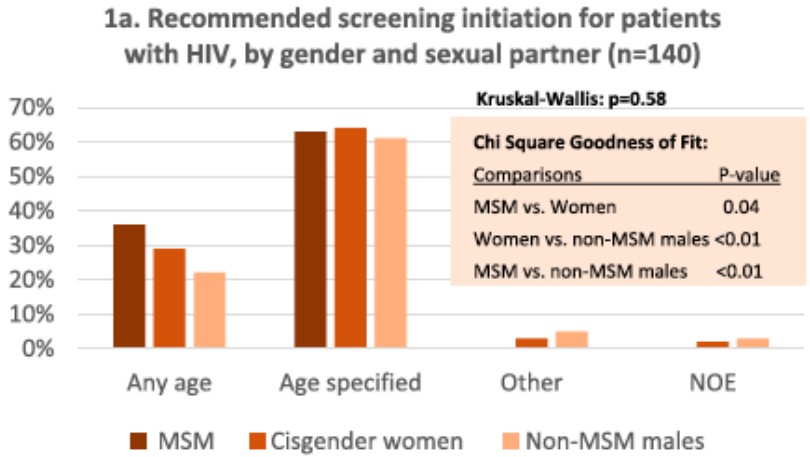


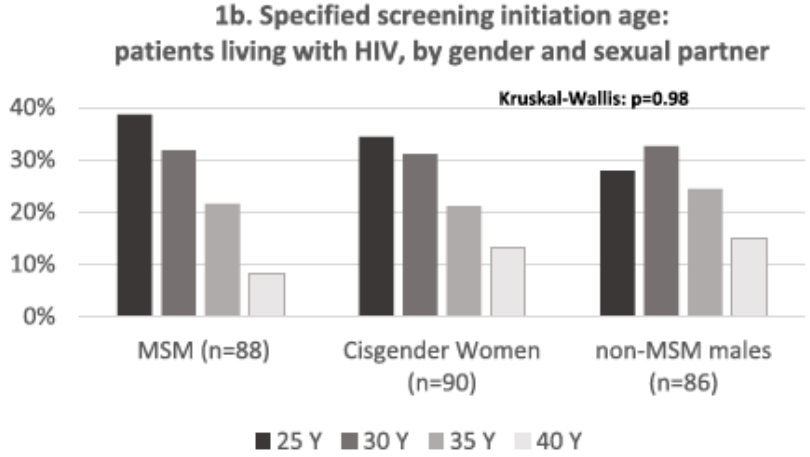
Clifford GM, et al Int. J. Cancer. 2021;148:38–47.

Preferences for anal cancer screening initiation age

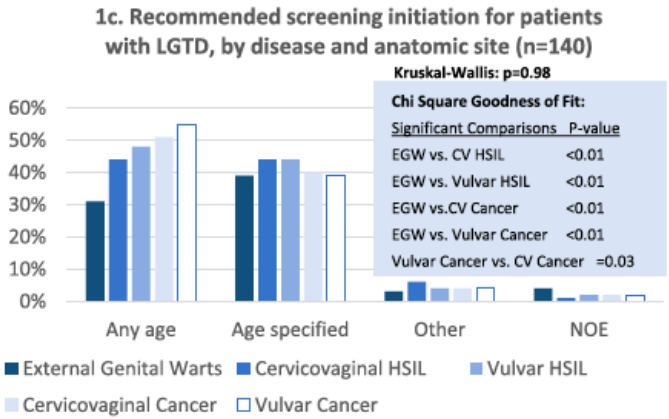
Provider preferences for anal cancer prevention screening: Results of the International Anal Neoplasia Society survey

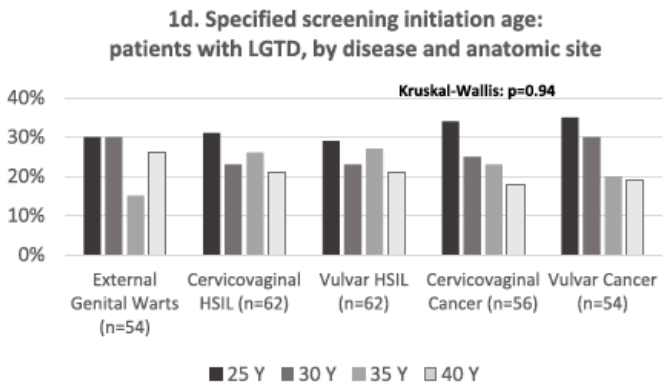
Rosalyn E. Plotzker [a,*], Gregory M. Barnell [b], Dorothy J. Wiley [c], Elizabeth A. Stier [d], Naomi Jay [a]

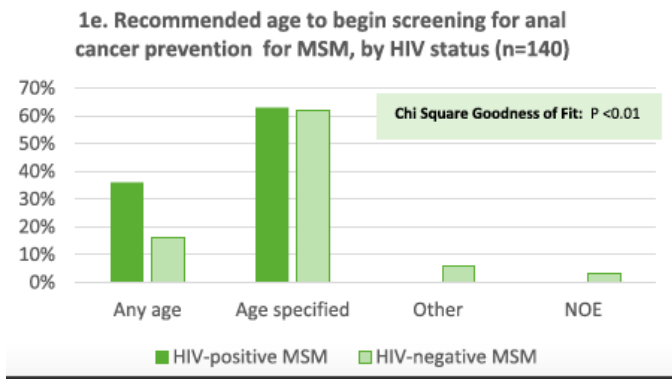


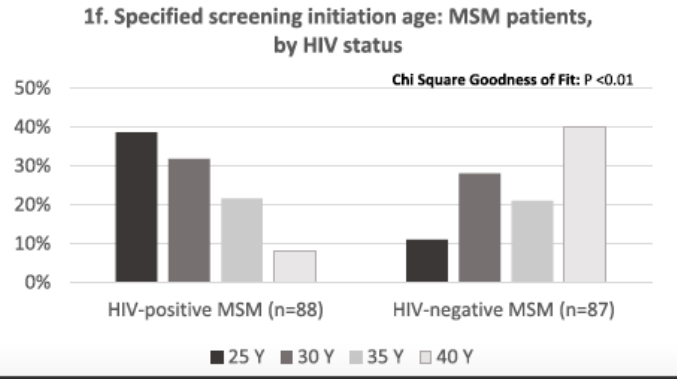


Preferences for anal cancer screening initiation age









Anal cancer screening/follow up in low risk SCCA population

Role?

Table 1 Summary characteristics of anal cancer screening modalities

	DARE	Anal Pap test	HPV testing	High resolution anoscopy
Sensitivity[56,57,61,62,101]	Not studied	69%-93%	Alone: 100% Co-testing with Pap[49]: 72%-96%	Current diagnostic standard
Specificity[56,57,61,62,101]	Not studied	32%-59%	Alone: 16%	Current diagnostic standard
Resource availability	N/A	Ubiquitous	Ubiquitous	Highly selective centers
Provider availability	Universal	Specialty clinics	Specialty clinics	Highly selective centers
Learning curve	Part of usual clinical training	Part of usual clinical training	Part of usual clinical training	> 200 cases
Current consensus[52]	Annually, all HIV-positive patients	Annually in highest-risk groups	Alone: No recommendation Co-testing: No recommendation	Second-line screen following positive Pap test

DARE: Digital anorectal exam; HPV: Human papilloma virus; N/A: Not applicable; HIV: Human immunodeficiency virus; Pap: Papanicolaou.

Anal cancer *vs* **HSIL**

always DARE + anamnesis of symptoms

Leeds I, et al World Journal of Gastrointestinal Surgery 2016

Populations & Factors to consider… (start)

- MSM +/- HIV
- Women +/- HIV
- SOT
- Others

- HPV infection& natural history
- Immunodepression
- RAI&sexual partners
- Gynecologic HPV disease
- Vaccination

Factors to consider: HPV16?

No HPV16→ delay screening??

Anal

HPV16 ⟶ 75-80%

Persistent anal HPV16: 25-35%

IJC
International Journal of Cancer

Human papillomavirus DNA prevalence and type distribution in anal carcinomas worldwide

Laia Alemany[1,2], Maëlle Saunier[1], Isabel Alvarado-Cabrero[3], Beatriz Quirós[1], Jorge Salmeron[3], Hai-Rim Shin[4], Edyta C. Pirog[5], Núria Guimerà[6], Gustavo Hernandez-Suarez[7], Ana Felix[8], Omar Clavero[1], Belen Lloveras[9], Elena Kasamatsu[10], Marc T. Goodman[11,12], Brenda Y. Hernandez[11], Jan Laco[13], Leopoldo Tinoco[14], Daan T. Geraets[6], Charles F. Lynch[15], Vaclav Mandys[16], Mario Poljak[17], Robert Jach[18], Josep Verge[19], Christine Clavel[20], Cathy Ndiaye[21], JoEllen Klaustermeier[1,2], Antonio Cubilla[10], Xavier Castellsagué[1], Ignacio G. Bravo[1], Michael Pawlita[22], William G. Quint[6], Nubia Muñoz[23], Francesc X. Bosch[1], and Silvia de Sanjosé[1,2] on behalf of the HPV VVAP Study Group

Table 3. HPV type specific relative contribution among HPV DNA-positive AIN 2/3 and invasive anal cancer cases

	AIN 2/3 (HPV+, n=41)				Invasive anal cancer (HPV+, n=438)					
	Single		Single + multiple[1]		Single		Single + multiple[1]		Relative contribution ratio (cancer:AIN)[2]	
HPV type	n	%	n	%	n	%	n	%	Ratio	95% CI
HPV6	–	–	–	–	8	(1.8)	8	(1.8)	–	–
HPV11	2	(4.9)	2	(5.0)	4	(0.9)	5	(1.1)	0.21	(0.04–1.06)
HPV16	27	(65.9)	31	(75.4)	332	(75.8)	354	(80.7)	1.07	(0.89–1.28
HPV18	–	–	–	–	15	(3.4)	16	(3.6)	–	–
HPV30	–	–	–	–	1	(0.2)	1	(0.2)	–	–
HPV31	1	(2.4)	2	(3.7)	5	(1.1)	8	(1.9)	0.51	(0.09–2.83)
HPV33	–	–	–	–	10	(2.3)	12	(2.7)	–	–
HPV35	–	–	–	–	7	(1.6)	7	(1.6)	–	–
HPV39	–	–	–	–	1	(0.2)	2	(0.5)	–	–
HPV42	–	–	–	–	1	(0.2)	1	(0.2)	–	–
HPV45	1	(2.4)	1	(2.4)	4	(0.9)	4	(0.9)	0.37	(0.04–3.27)
HPV51	1	(2.4)	2	(3.7)	–	–	–	–	–	–
HPV52	–	–	–	–	2	(0.5)	3	(0.7)	–	–
HPV56	–	–	–	–	2	(0.5)	2	(0.5)	–	–
HPV58	–	–	–	–	8	(1.8)	8	(1.8)	–	–
HPV59	–	–	–	–	1	(0.2)	2	(0.5)	–	–
HPV67	–	–	–	–	1	(0.2)	1	(0.2)	–	–
HPV68	–	–	–	–	1	(0.2)	1	(0.3)	–	–
HPV97	–	–	–	–	1	(0.2)	1	(0.2)		
HPV undetermined	–	–	–	–	2	(0.5)	2	(0.5)	–	–
Multiple infections	9	(22.0)	–	–	32	(7.3)	–	–	**0.33**	**(0.17–0.65)**

Factors to consider: Receptive anal intercourse?

RAI → **↑↑Risk for anal HPV infection**

↓

Anal HPV infection is not always associated with RAI ♂**10 %** ♀**27 %**

- *Passive anal infection in sexual intercourse*
- *Front-to-back & dabbing wiping behaviour post-toilet*

RAI→ consider in screening??

Cancer Epidemiol Biomarkers Prev . 2009 Apr;18(4):1077-83
Cancer Epidemiol . 2016 Jun;42:124-32.

Guidelines: when stop cervical cancer screening

Centers for Disease Control and Prevention
MMWR Morbidity and Mortality Weekly Report
Recommendations and Reports / Vol. 70 / No. 4 July 23, 2021

TABLE 1. Cervical cancer screening and surveillance recommendations

Population	Screening specifics	Guideline group, yr of recommendation: USPSTF, 2018	ACOG, 2016	ACS, 2020
Persons at average risk	Age to start screening	21 yrs	21 yrs	25 yrs
	Age to end screening	65 yrs	65 yrs	65 yrs
	If three consecutive negative cytology tests or two negative cytology plus HPV tests or two negative HPV tests (ACS) with the most recent within the previous 5 yrs and no abnormal tests within the previous 10 yrs (ACS) and no CIN 2 or CIN 3 within the previous 25 yrs			
Persons with an immunocompromising medical condition† (e.g., HIV infection or solid organ transplantation)	Age to start screening	No specific recommendation	Within 1 yr of onset of sexual activity or, if already sexually active, within the first year after HIV or other immunocompromising medical condition diagnosis but no later than age 21 yrs	
	Age to end screening		None; lifelong screening recommended	

AEPCC Guías
ASOCIACIÓN ESPAÑOLA DE PATOLOGÍA CERVICAL Y COLPOSCOPIA

No data

Guidelines: when stop anal cancer screening

CLINICAL GUIDELINES PROGRAM

NEW YORK STATE DEPARTMENT OF HEALTH AIDS INSTITUTE | HIV · HCV · SUBSTANCE USE · LGBT HEALTH

STOP

- Clinicians should discontinue screening for anal cancer when life expectancy is less than 10 years and in individuals with 2 consecutive negative anal cytology specimens who are not currently sexually active. (B3)

Anal cancer/HPV → natural history HIV-MSM. stop

All risk groups??

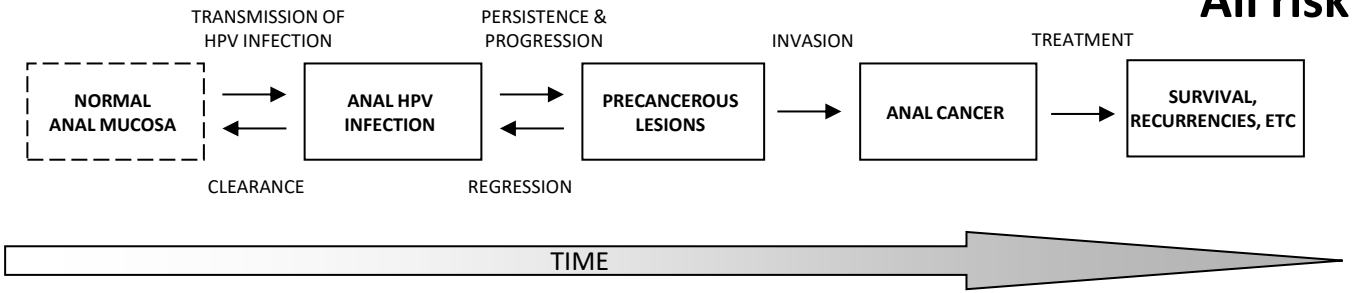


Table 3 Progression rates of anal intraepithelial neoplasia to squamous cell carcinoma

Progression	No. patients	Rate of progression	Median or average progression time	Ref.
AIN II/III to SCC	72	11%	42 mo	[33]
AIN III to SCC	35	8.6%	53 mo	[34]
AIN I to AIN III	199	12.6% (8.1/100 person-years)	18 mo	[35]
ASCUS/AIN I to AIN II/III	556	24.5% (10.5/100 person-years)	36 mo	[36]
HSIL to SCC	138	19.6%	57 mo. w/ prevalent HSIL; 64 mo. w/ incident HSIL	[37]

according to life expectancy?

ASCUS/AINI→ SCC : **93 mo: ~ 8 y**

Roberts JR, et al World Journal of Gastrointestinal Surgery 2016

Populations & Factors to consider… (stop)

- MSM +/- HIV
- Women +/- HIV
- SOT
- Others

- HPV infection
  - Immunodepression → **while it lasts…??**
  - RAI&new sexual partners →…
  - Gynecologic HPV disease →??
  - Vaccination →??

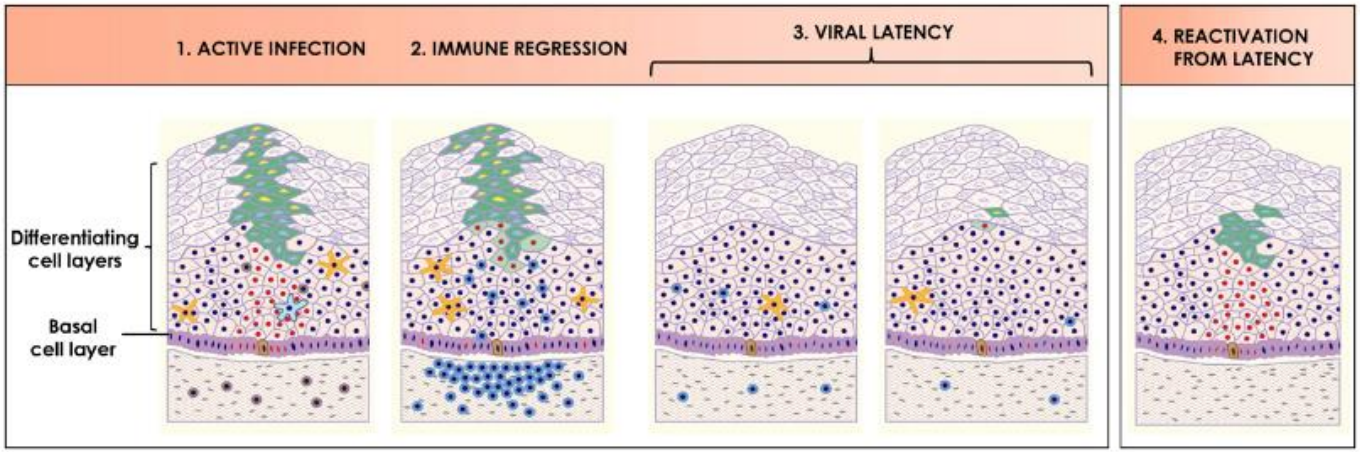
HPV clearance: ID → no presence is enough??

Reactivation from latency!!

Review

The Biology and Life-Cycle of Human Papillomaviruses

John Doorbar[a,*], Wim Quint[b], Lawrence Banks[c], Ignacio G. Bravo[d], Mark Stoler[e], Tom R. Broker[f], Margaret A. Stanley[g]



Vaccine 2012

Anal cancer screening: who (conclusions)

A meta-analysis of anal cancer incidence by risk group: Toward a unified anal cancer risk scale

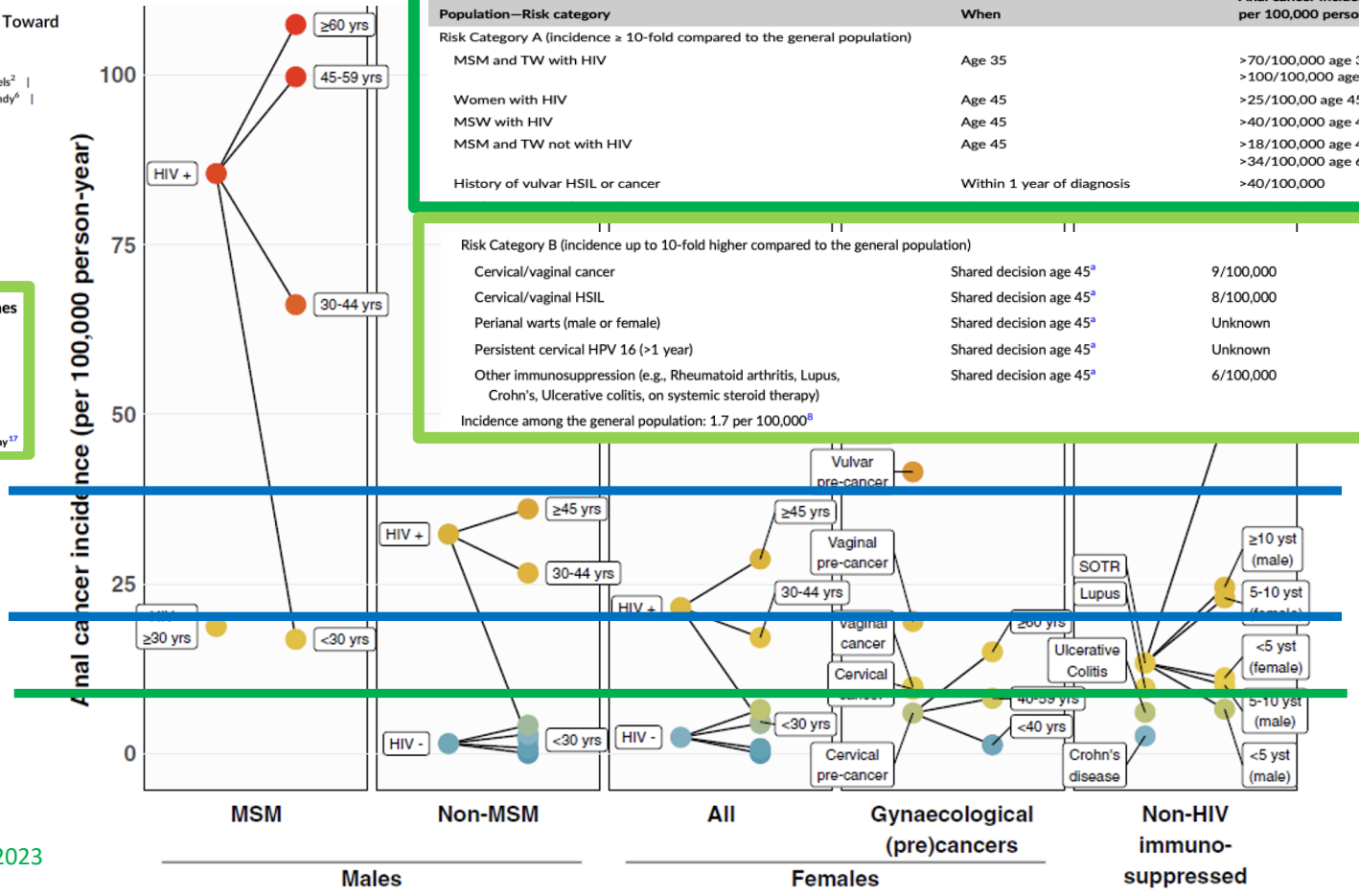
Gary M. Clifford[1] | Damien Georges[1] | Meredith S. Shiels[2] | Eric A. Engels[2] | Andreia Albuquerque[3,4] | Isobel Mary Poynten[5] | Alexandra de Pokomandy[6] | Alexandra M. Easson[7] | Elizabeth A. Stier[8]

International Anal Neoplasia Society's consensus guidelines for anal cancer screening

Elizabeth A. Stier[1] | Megan A. Clarke[2] | Ashish A. Deshmukh[3,4] | Nicolas Wentzensen[2] | Yuxin Liu[5] | I. Mary Poynten[6] | Eugenio Nelson Cavallari[7] | Valeria Fink[8] | Luis F. Barroso[9] | Gary M. Clifford[10] | Tamzin Cuming[11] | Stephen E. Goldstone[12] | Richard J. Hillman[6,13] | Isabela Rosa-Cunha[14] | Luciana La Rosa[15,16] | Joel M. Palefsky[17] | Rosalyn Plotzker[18] | Jennifer M. Roberts[19] | Naomi Jay[17]

Population—Risk category	When	Anal cancer incidence per 100,000 person-years
Risk Category A (incidence ≥ 10-fold compared to the general population)		
MSM and TW with HIV	Age 35	>70/100,000 age 30–44 >100/100,000 age 45+
Women with HIV	Age 45	>25/100,00 age 45+
MSW with HIV	Age 45	>40/100,000 age 45+
MSM and TW not with HIV	Age 45	>18/100,000 age 45–59 >34/100,000 age 60+
History of vulvar HSIL or cancer	Within 1 year of diagnosis	>40/100,000

Risk Category B (incidence up to 10-fold higher compared to the general population)		
Cervical/vaginal cancer	Shared decision age 45[a]	9/100,000
Cervical/vaginal HSIL	Shared decision age 45[a]	8/100,000
Perianal warts (male or female)	Shared decision age 45[a]	Unknown
Persistent cervical HPV 16 (>1 year)	Shared decision age 45[a]	Unknown
Other immunosuppression (e.g., Rheumatoid arthritis, Lupus, Crohn's, Ulcerative colitis, on systemic steroid therapy)	Shared decision age 45[a]	6/100,000
Incidence among the general population: 1.7 per 100,000[8]		



Int. J. Cancer. 2021

Int. J. Cancer. 2023

Conclusions

- We need to generate more data to change what guidelines say: start&stop screening and type of screening)
- Screening in MSM-HIV should start at 35 y
- Screening start in other ID (SOT, QT,…) will depend on age/IS treatment initio (and probably type of IS treatment)
- Screening stop will depend on HPV persistence infection
- HPV vaccination (probably) will change…everything

Muchas gracias