

Anal Cytology and High Resolution Anoscopy

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Learning Objective

Upon completion of this presentation, learners should be better able to:

- Apply recommended practice guidelines in screening for anal cancer in the HIV-infected patient with anal cytology (anal "Pap" test).

Off-Label Disclosure

The following off-label/investigational uses will be discussed in this presentation:

- Imiquimod
- Fluorouracil 5% cream
- Cidofovir cream

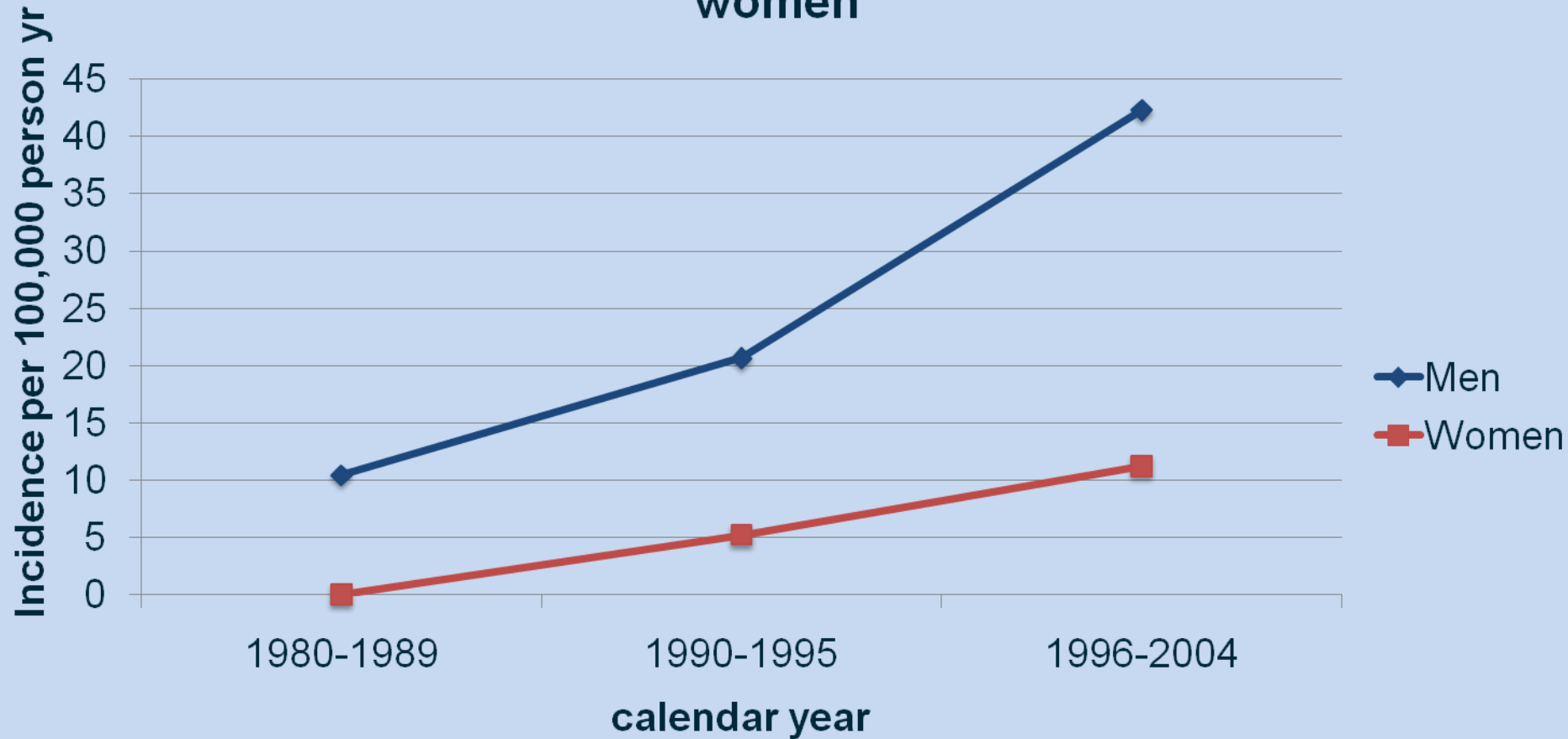


Have you ever collected a specimen for anal cytology (anal Pap test)?

1. YES
2. NO
3. Don't know

Anal cancer and HIV

Incidence of anal cancer in HIV infected men and women

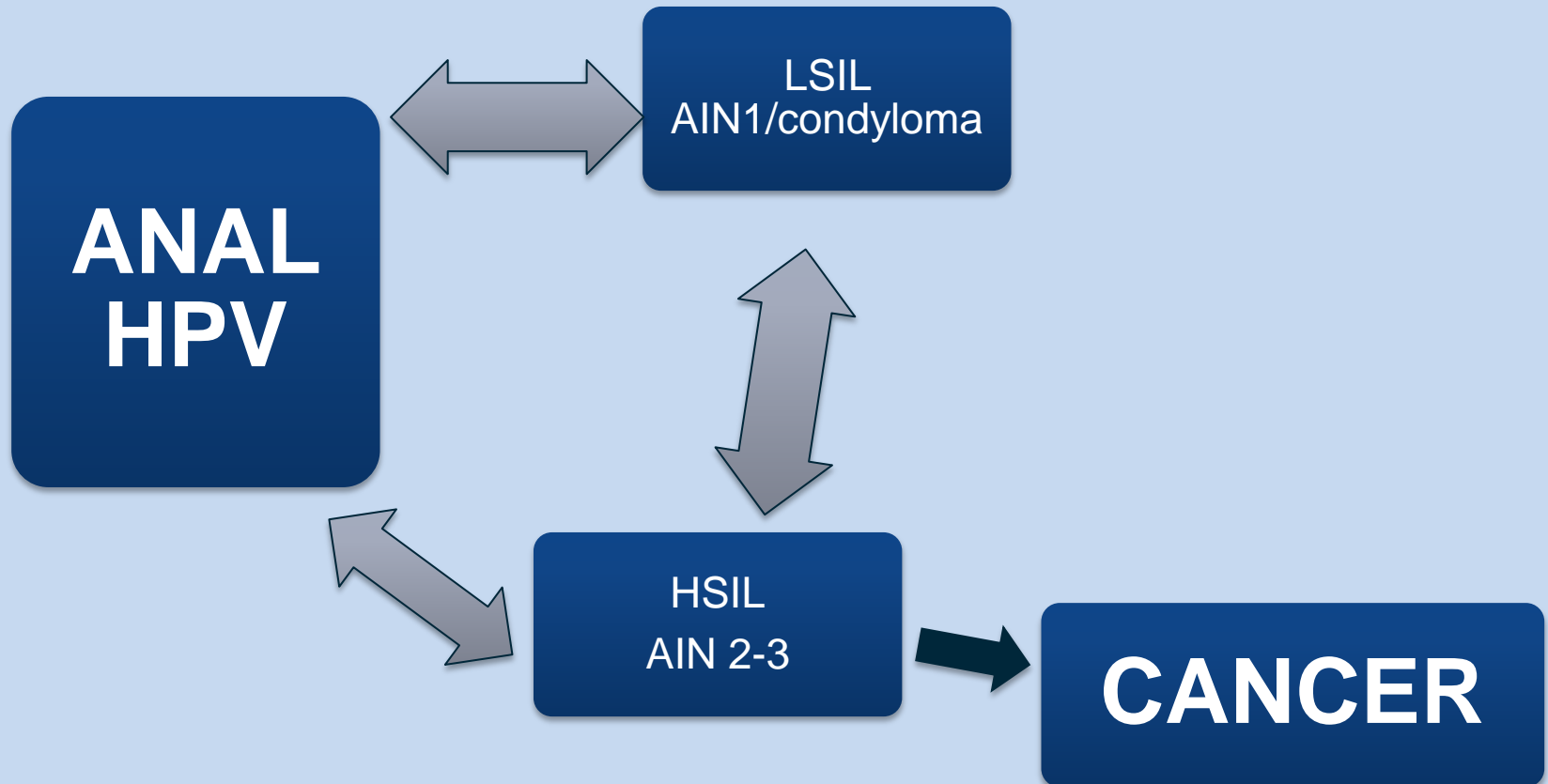


Chaturvedi, JNCI, 2009

Have any of your patients been diagnosed with anal cancer?

1. YES
2. NO
3. Don't know

Natural history– HPV infection to cancer



Who should be screened for anal cancer?

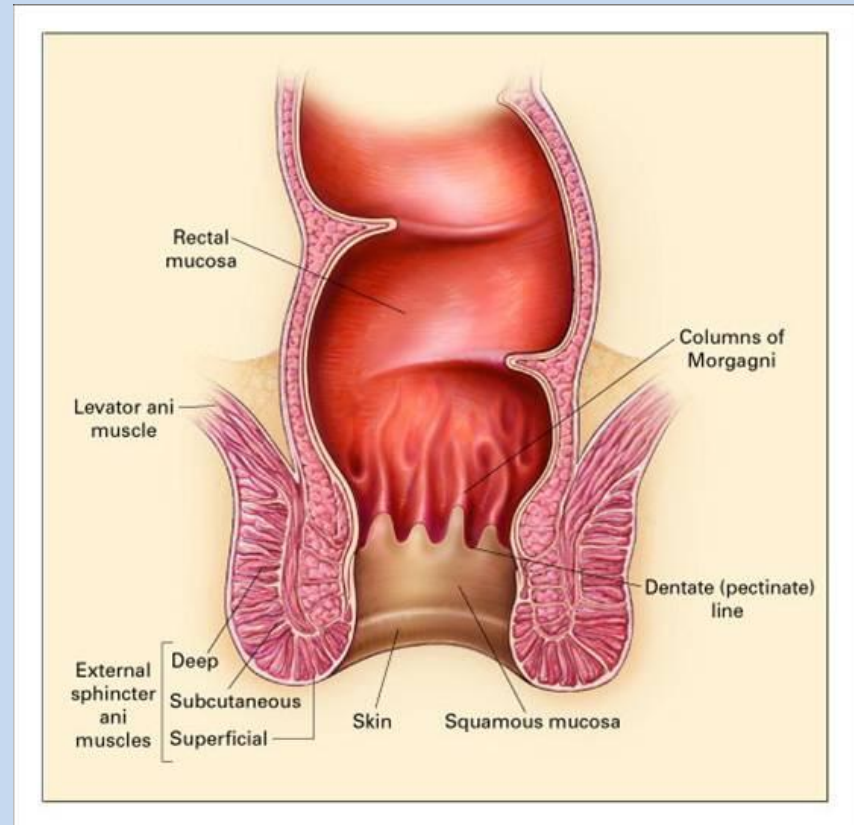
1. All HIV+ men and women
2. All HIV+ men who have sex with men (MSM)
3. All HIV+ women
4. HIV+ with history of condyloma
5. No one

Clinicians should perform anal Pap tests at baseline and annually in the following HIV-infected :

- **Men who have sex with men**
- **Any patient with a history of anogenital condylomas**
- **Women with abnormal cervical and/or vulvar histology**



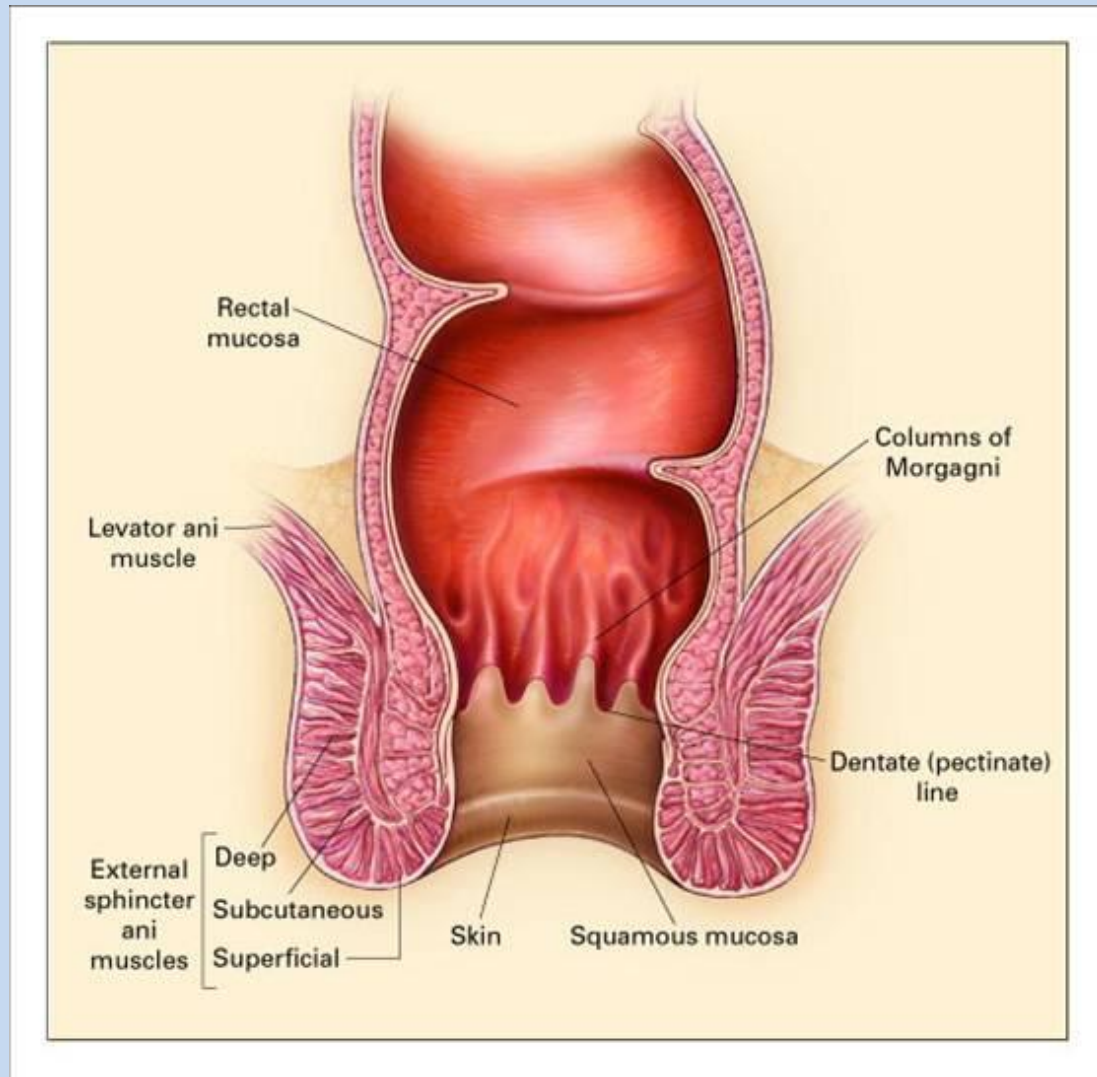
Anal cytology collection



All HIV+ patients should have an annual

- exam of the perianus
- digital anorectal exam

Digital rectal exam- don't forget the anus



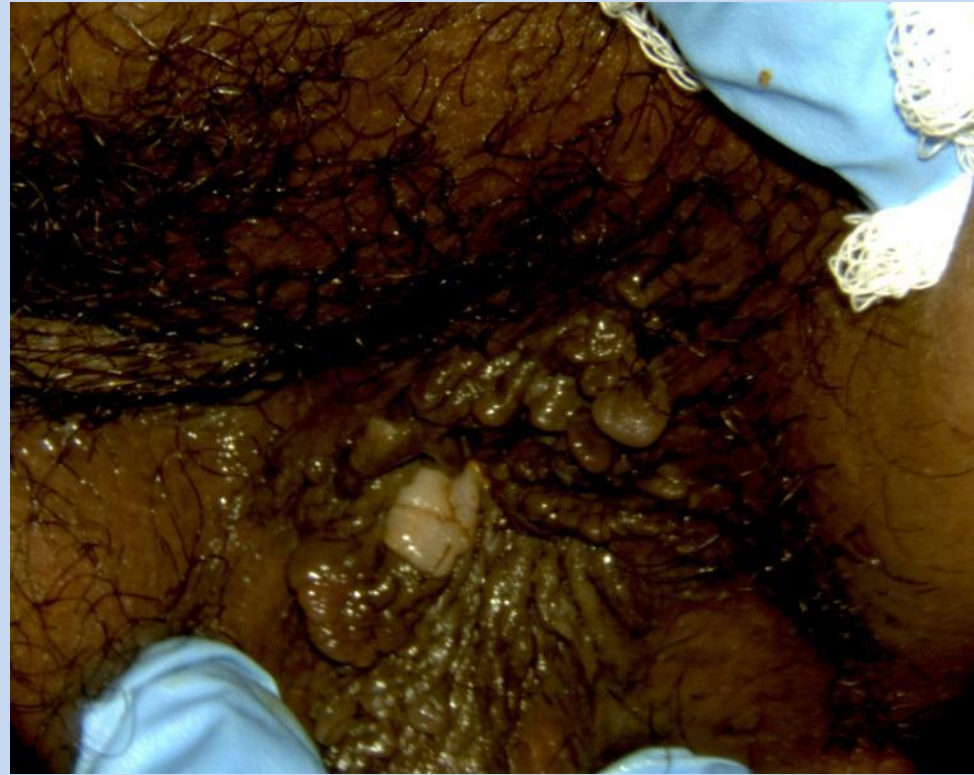
4 cm
3 cm
2 cm
1 cm

Perianal HSIL



40 yo HIV+ male, heterosexual

Condyloma



45 yo HIV+ woman

Condyloma



48 yo HIV+ female

CIS of vulva



43 yo HIV+ woman

HIV-infected males with apparent perianal and/or anal condyloma

34-60% with HSIL of the anus or perianus
3% with invasive cancer

Cytology and Histology Nomenclature

Bethesda (cytology)	Histology		Dysplasia terminology
Negative for intraepithelial lesions or malignancy (NILM)	Normal		Normal
ASCUS ASC-H	Atypia		
LSIL	LSIL	AIN 1	Mild dysplasia
HSIL	HSIL	AIN II AIN III CIS	Moderate dysplasia Severe dysplasia
Cancer	Cancer		Cancer

ANY ABNORMAL RESULT: REFER FOR HRA

Bethesda (cytology)	Histology		Dysplasia terminology
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ASCUS			
LSIL	LSIL	AIN 1	Mild dysplasia
ASC/H HSIL	HSIL	AIN II AIN III CIS	Moderate dysplasia Severe dysplasia
Cancer	Cancer		Cancer

Abnormal cytology – how likely?

	HIV+		
	MSM ¹		
ASCUS	12-14%		
LSIL	31-43%		
ASCH/HSIL	9-12%		
Abnormal cytology	56-67%		

¹Conley, JID, 2010

¹Salit, AIDS, 2010

¹Chiao, CID, 2006

Abnormal anal cytology – how likely?

	HIV+		
	MSM ¹	Women ²	MSW ³
ASCUS	12-14%	10-18%	7%
LSIL	31-43%	7-18%	8%
ASC-H/HSIL	9-12%	0-9%	3%
Abnormal cytology	56-67%	17-39%	20%

^{1,3}Conley, JID, 2010

¹Salit, AIDS, 2010

¹Chiao, CID, 2006

²Hessol, AIDS, 2009

²Kojic, STD, 2010

²Tandon, A J ObGyn 2010

WHO SHOULD HAVE HIGH RESOLUTION ANOSCOPY (HRA)?

- ABNORMAL ANAL CYTOLOGY
- ABNORMAL PERIANAL OR ANAL EXAM

If HRA not available...



Refer to a surgeon for
further evaluation

Equipment





Anoscope insertion



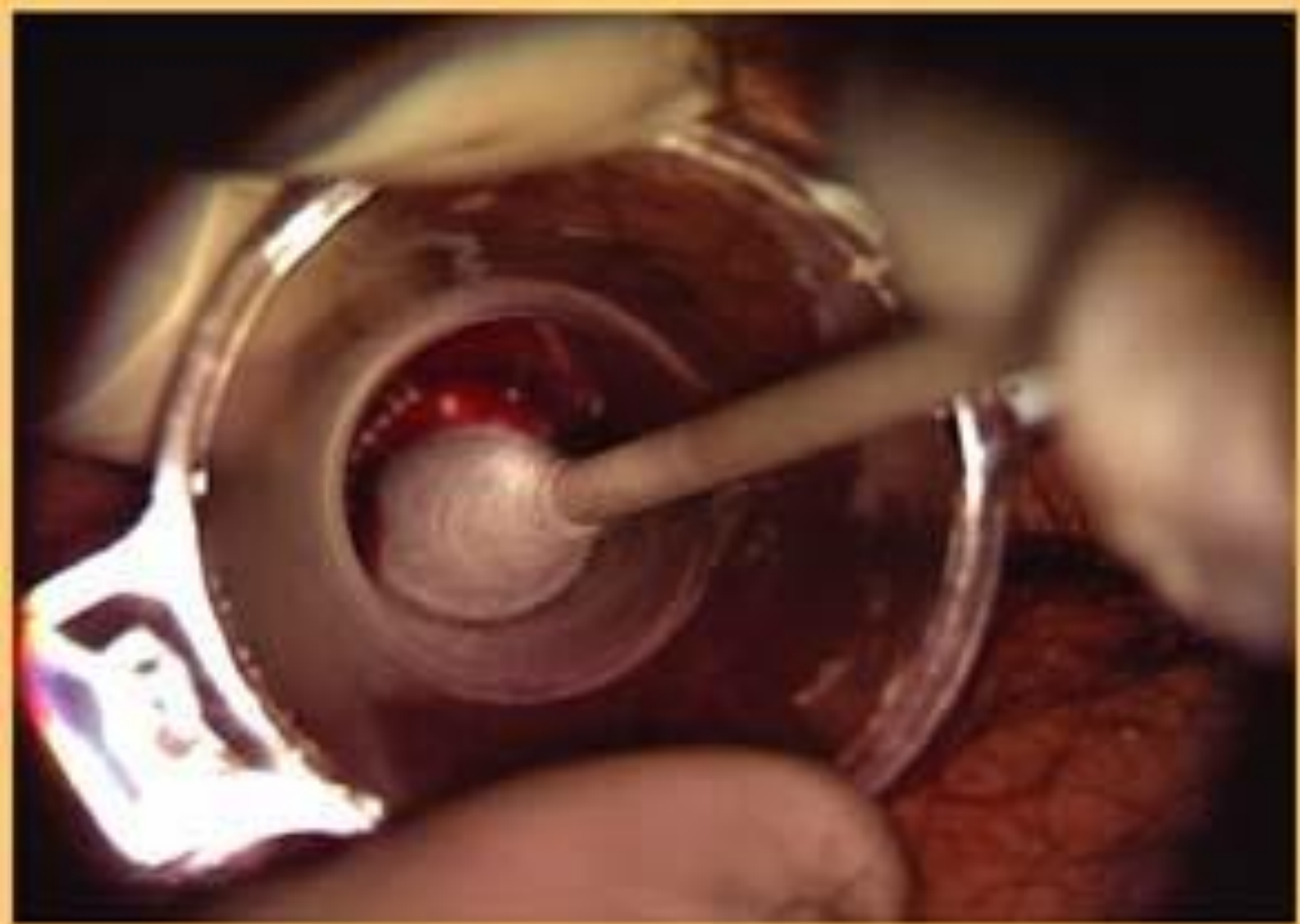


**Acetic acid (3-5%)
application**

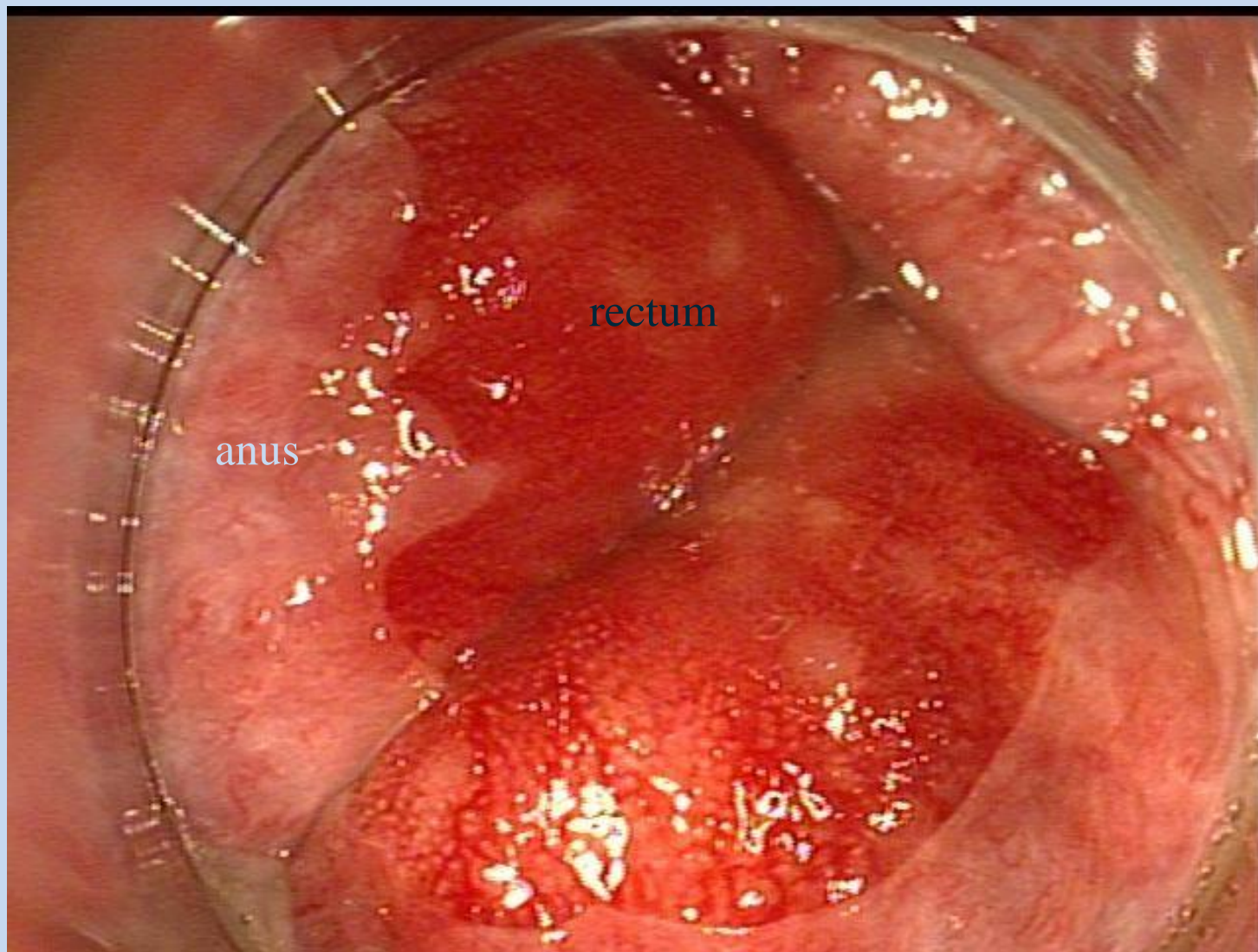


High Resolution Anoscopy

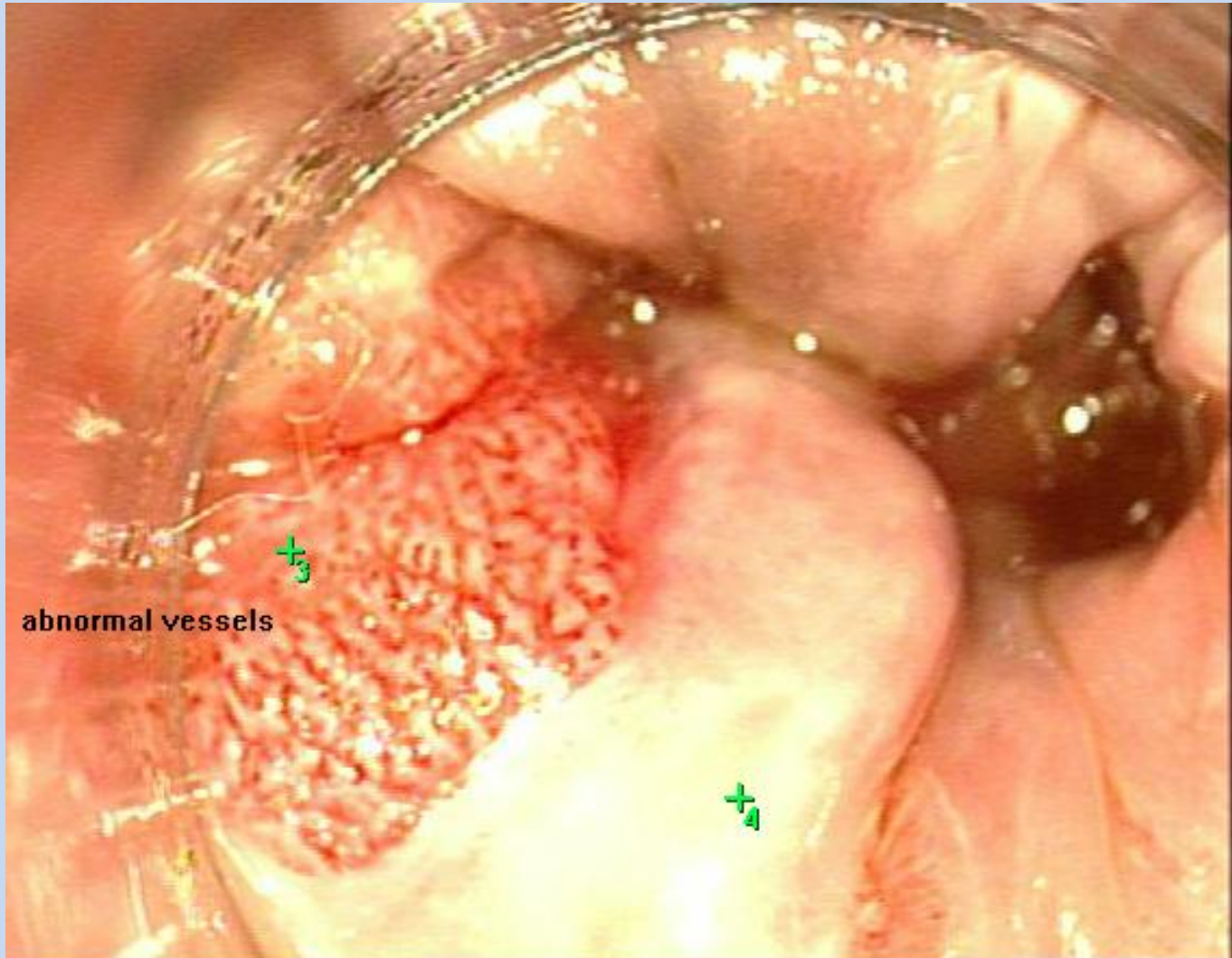




Normal anus



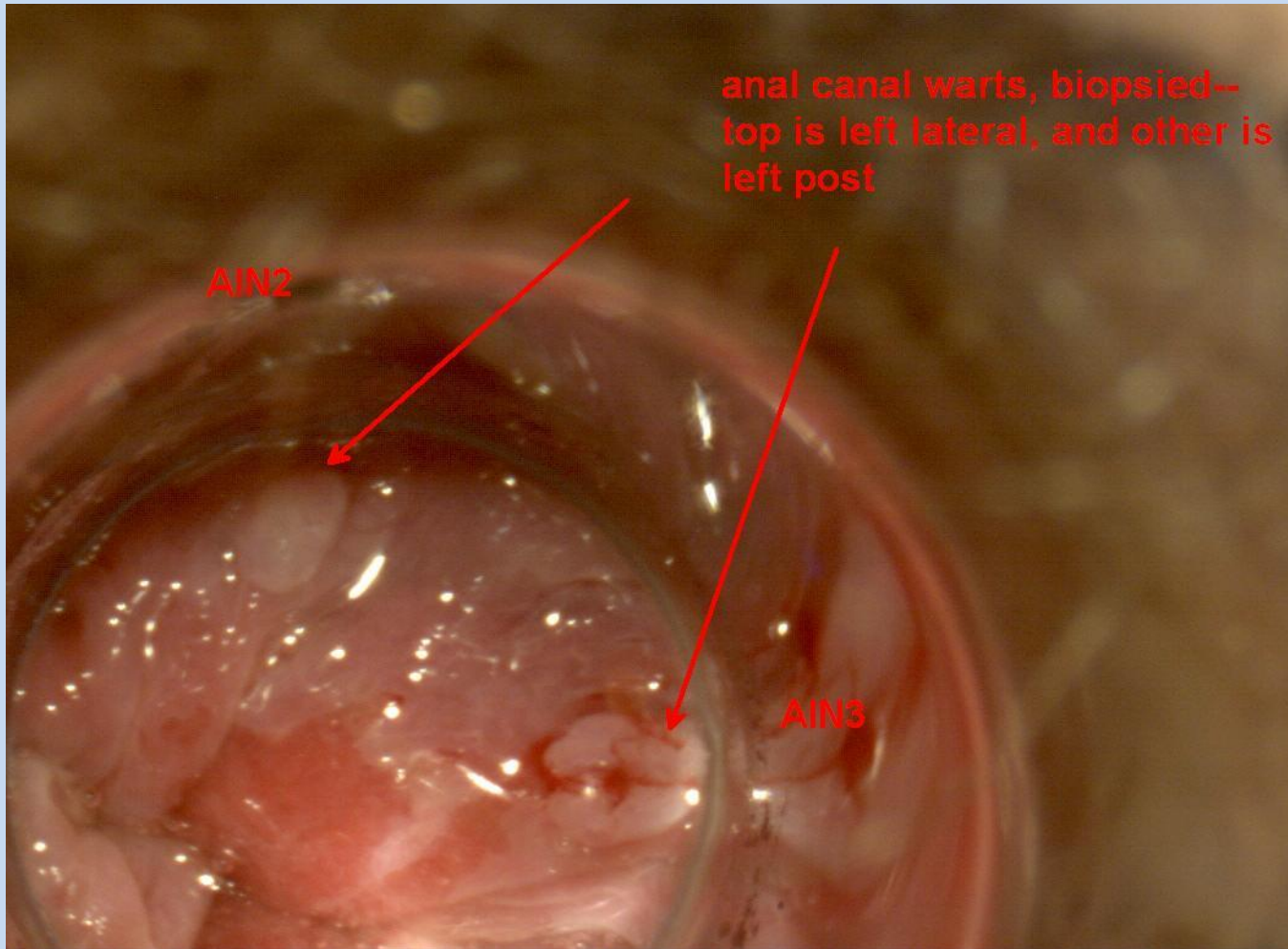
AIN3/ CIS of the Anus



Anal condyloma



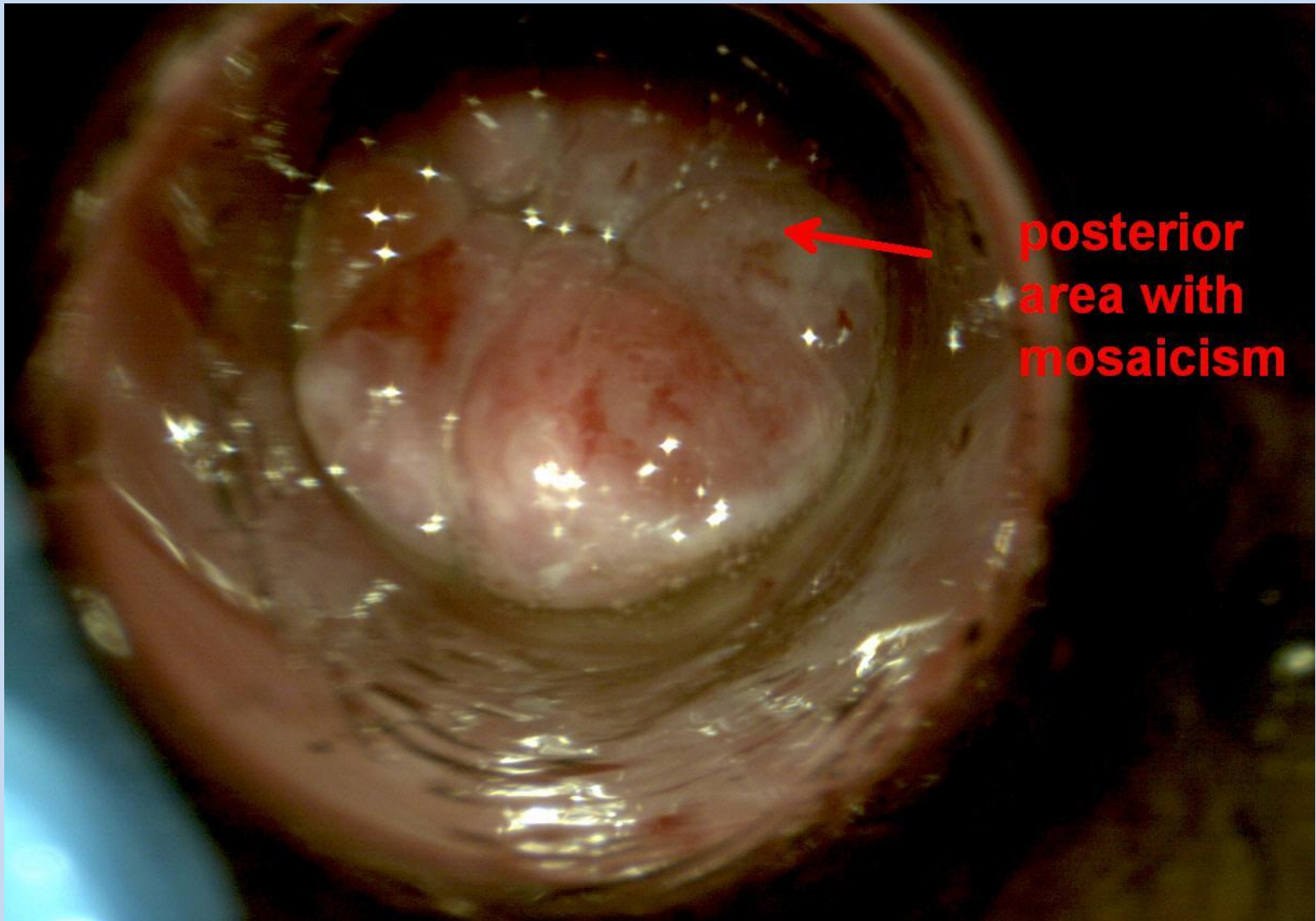
AIN2-3

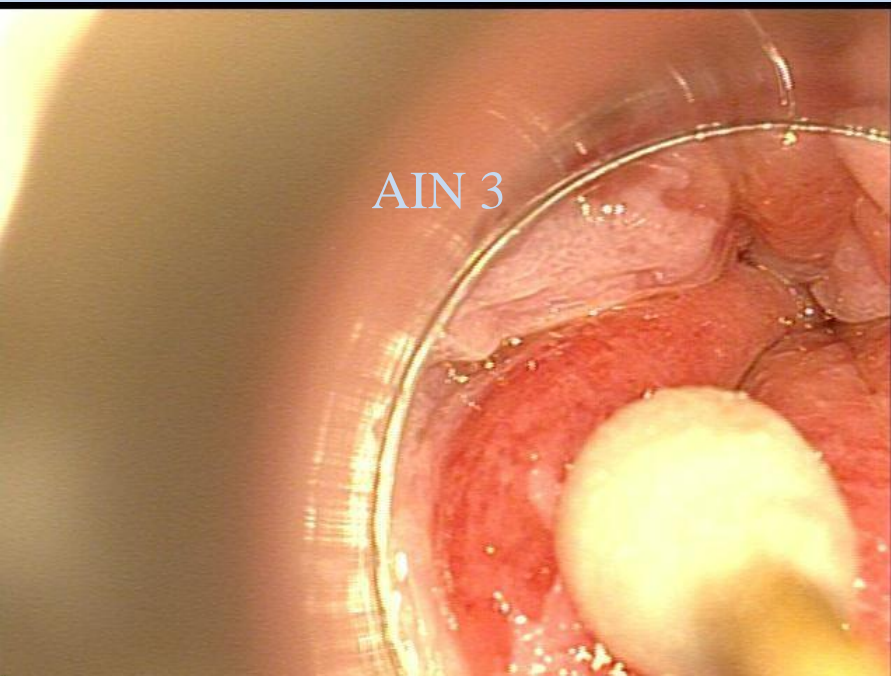


AIN3/ CIS of the Anus



AIN2

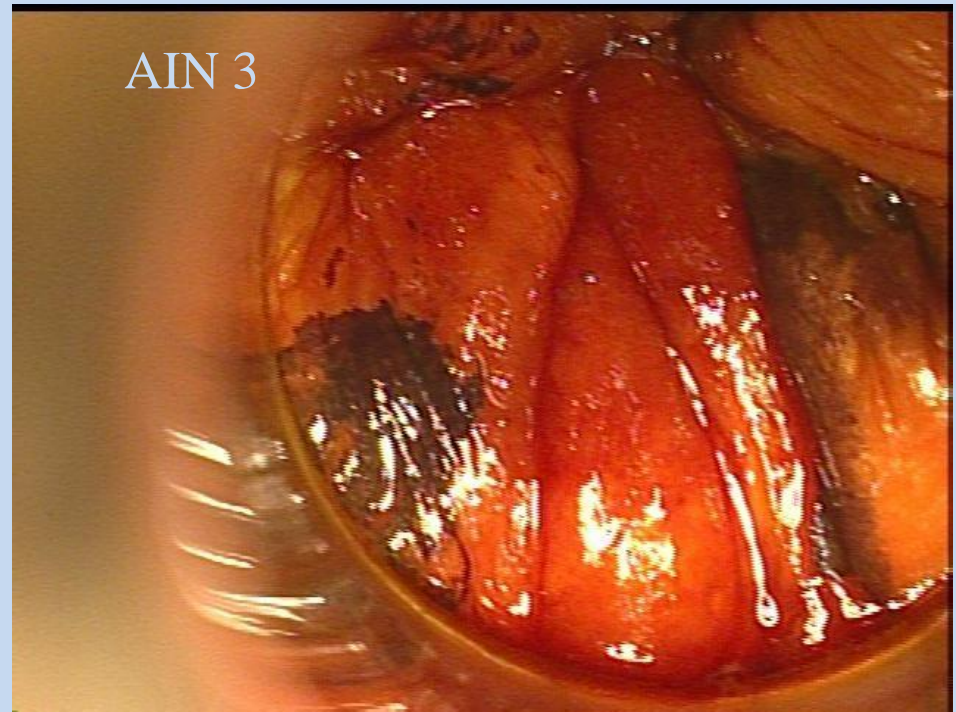


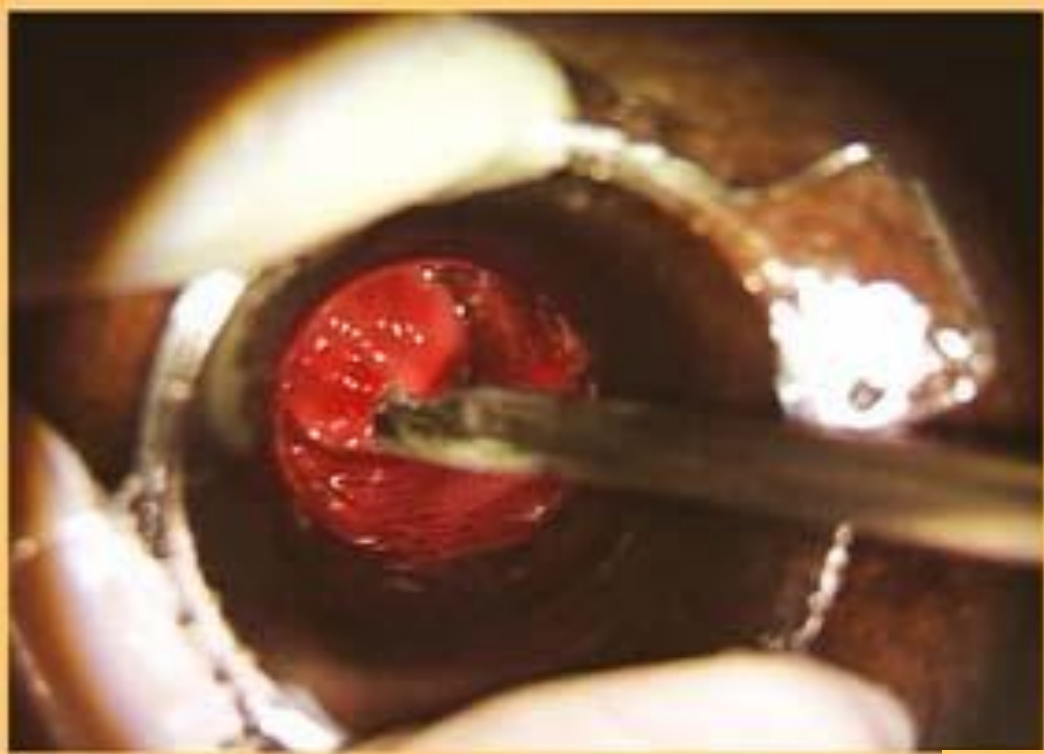


Acetic acid

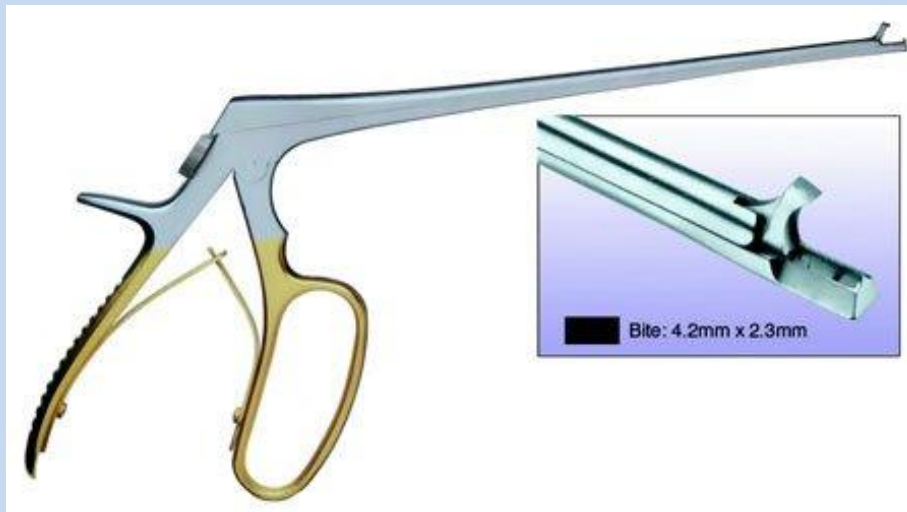
AIN3– HSIL

Lugol's solution





The biopsy



Prevalence of abnormal anal histology

	HIV+	
	MSM ¹	Women ²
Condyloma/ LSIL	25-43%	7-11%
HSIL (AIN2-3)	25-52%	3-9%

¹Palefsky, AIDS, 2005

¹Salit, AIDS, 2010

²Hessol, AIDS, 2009

²Tandon, A J ObGyn 2010

TREATMENT OPTIONS:

PATIENT
APPLIED

IMIQUIMOD
FLUOROURACIL
5% CREAM
CIDOFOVIR
CREAM

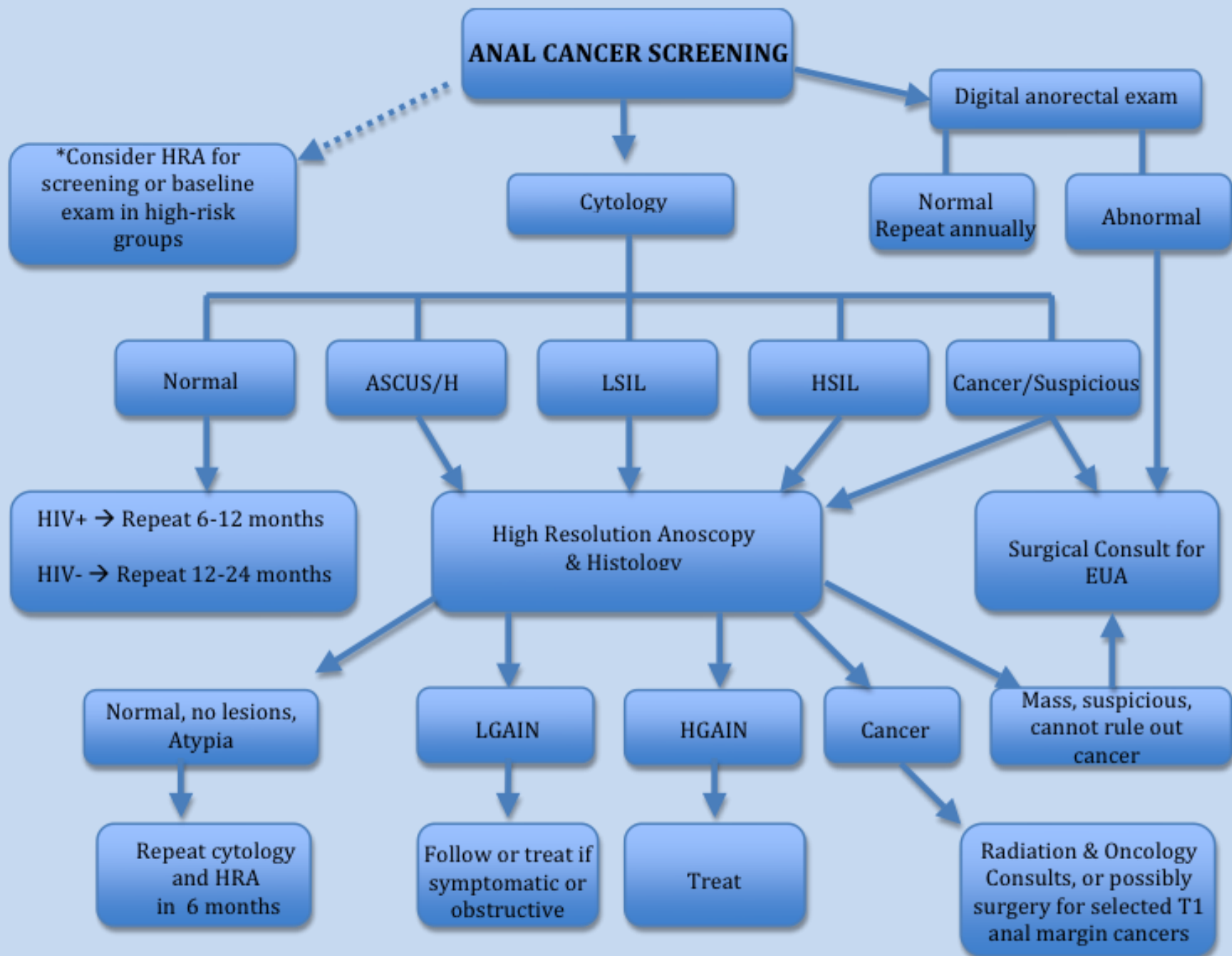
PROVIDER

IRC
LASER
ELECTROCAUTERY/
HYFERCATOR
CRYOTHERAPY
TCA

Expert opinion

38 yo HIV+ MSM has an anal
Pap test. How likely is that anal
Pap test to be abnormal?

1. <10%
2. 11-25%
3. 26-50%
4. >50%



Expert opinion

Who should be screened for anal cancer?

1. All HIV+ men and women
2. All HIV+ men who have sex with men (MSM)
3. All HIV+ women
4. HIV+ with history of condyloma
5. No one

Science

Anal-Wart Researcher Worst Science Jobs II: Number 1

By William Speed Weed | November 2004



Peter Stemmler

*Involves digestive product,
generally disgusting (see more)*

 Go to Forums

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"I see about 15 butts a day, and a third of them have warts," says nurse practitioner Naomi Jay of the University of California at San Francisco. Jay and infectious-disease doc Joel Palefsky were the first to run extensive clinical studies on the sexually transmitted diseases that afflict the anus. "He's the tushie king, and I'm the tushie queen," Jay boasts. Each of us has about a 10 percent lifetime risk of contracting anal warts, the worst variety of which—enemy number one storming the battlements of Jay's royal domain—is human papillomavirus. This same STD that can cause cervical cancer in women also causes anal cancer in both genders. And the only way to detect this rare but deadly disease is to ask a highly trained nurse like Jay to scrutinize your derrière. "A giant anal wart can be a couple inches large and blocking the anal opening," Jay says with her customary vigor. The bright side? "In 13 years I've only

been pooped on twice, and that's not bad."

**Special thanks to Naomi Jay, RN, NP, PhD
for providing many images for the study**