High Resolution Anoscopy Overview

Naomi Jay, RN, NP, PhD
University of California San Francisco
Email: naomi.jay@ycsf.edy

ASCCP2016

Disclosures

No Disclosures

Definition of HRA

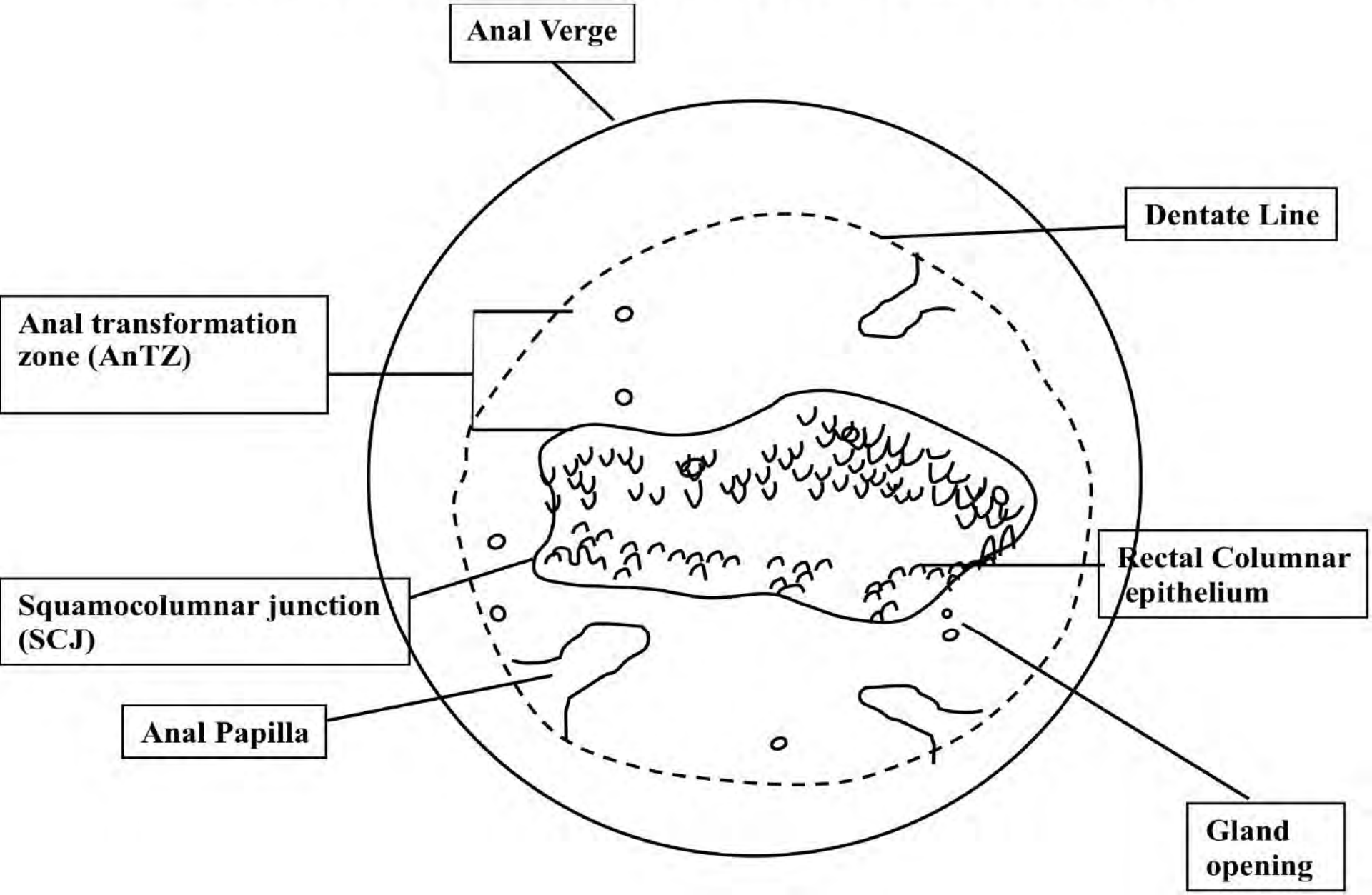
Examination of the anus, anal canal and perianus using a colposcope with 5% acetic acid and Lugol's solution.

Basic Principles

- Office-based procedure
- Adapted from gynecologic colposcopy.
- Validated for anal canal.
- Similar terminology and descriptors.

  may be unfamiliar to non-gyn providers.
- Comparable to vaginal and vulvar colposcopy.
- Clinicians familiar with cervical colposcopy may be surprised by the difficult transition.

The anus is just like the cervix



Squamocolumnar Junction (SCJ)

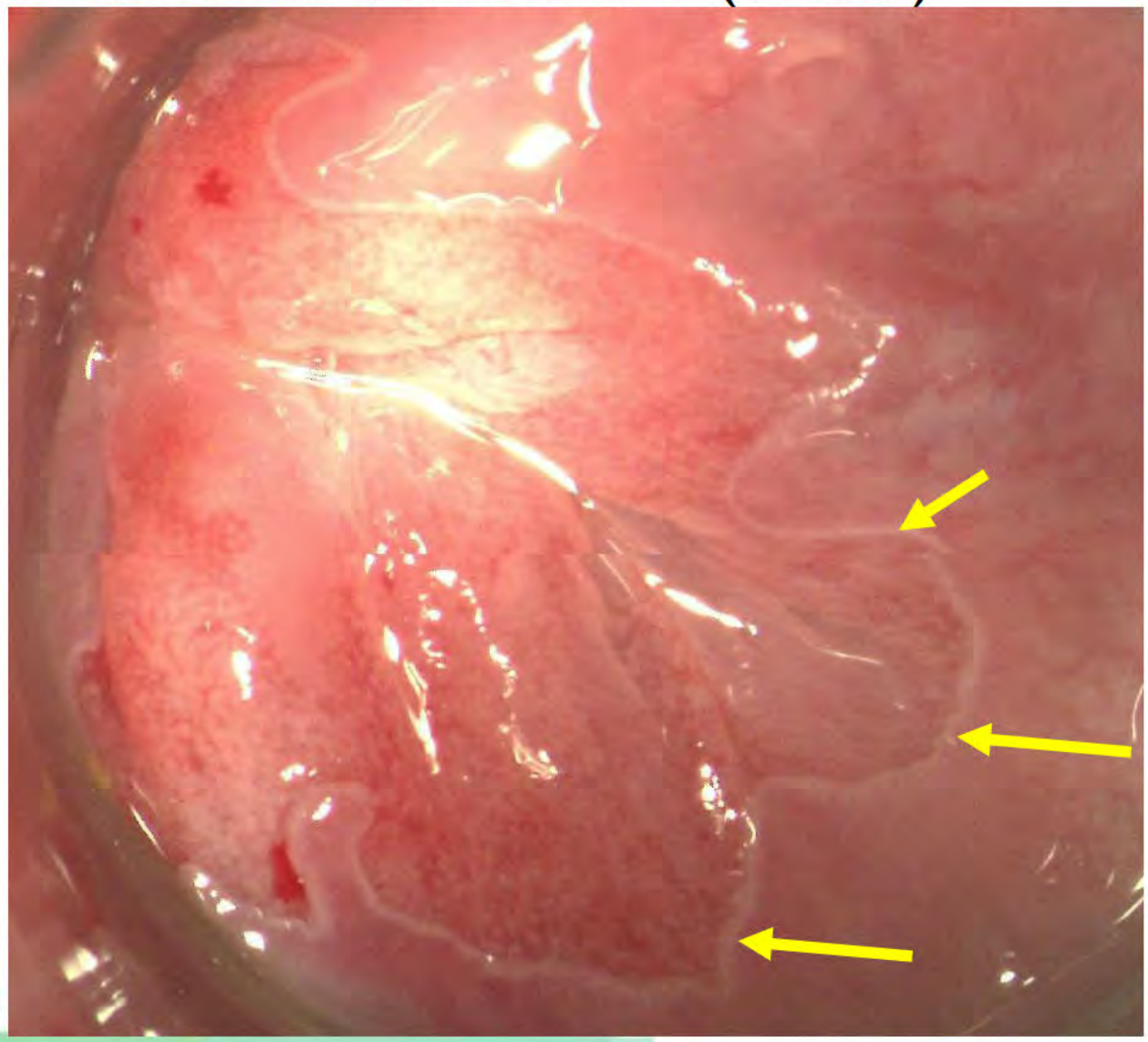
Anal *squamous* epithelium abuts colon *columnar* epithelium.

Thin white line

of metaplasia

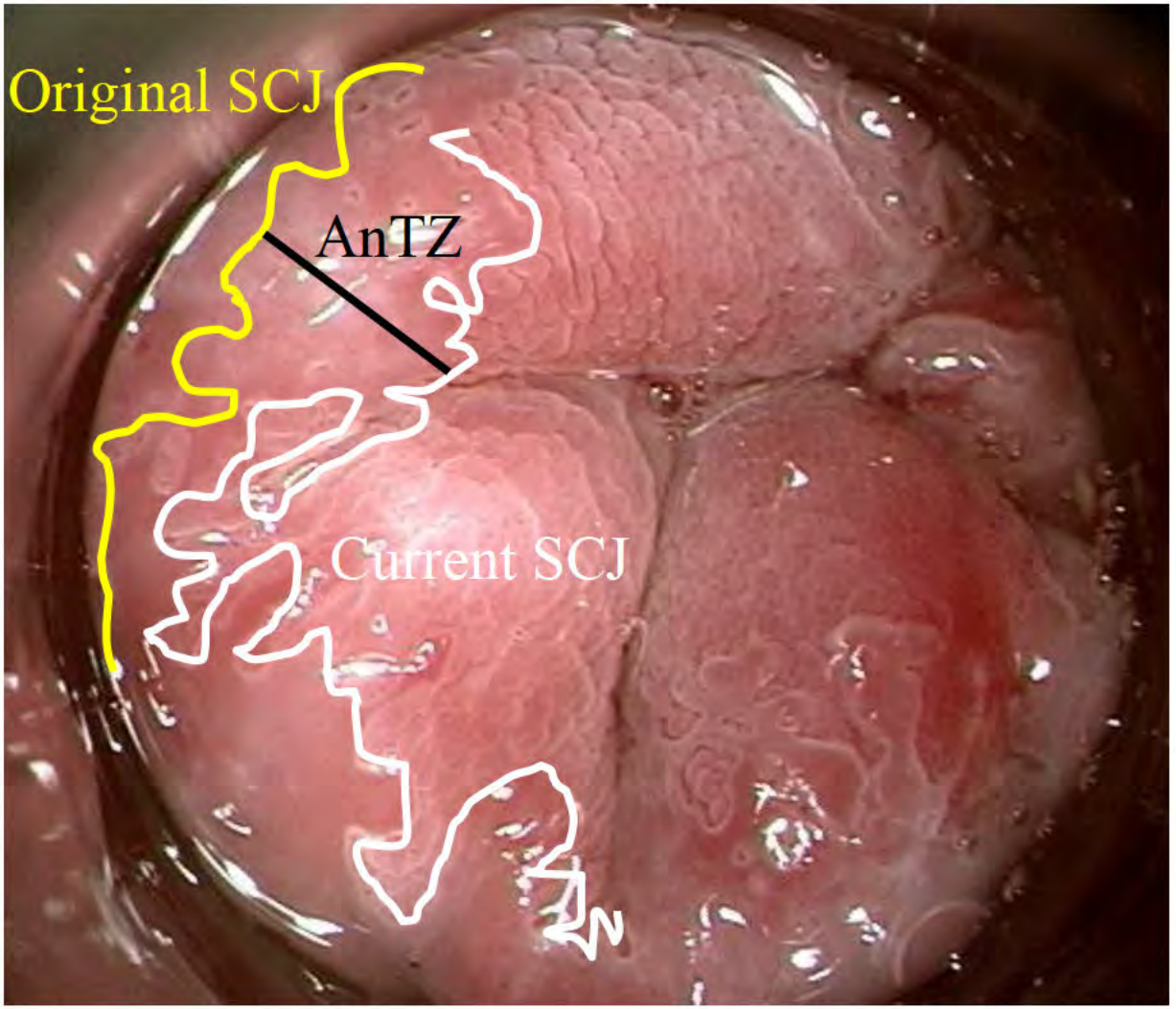
only seen with

Acetic acid and magnification.

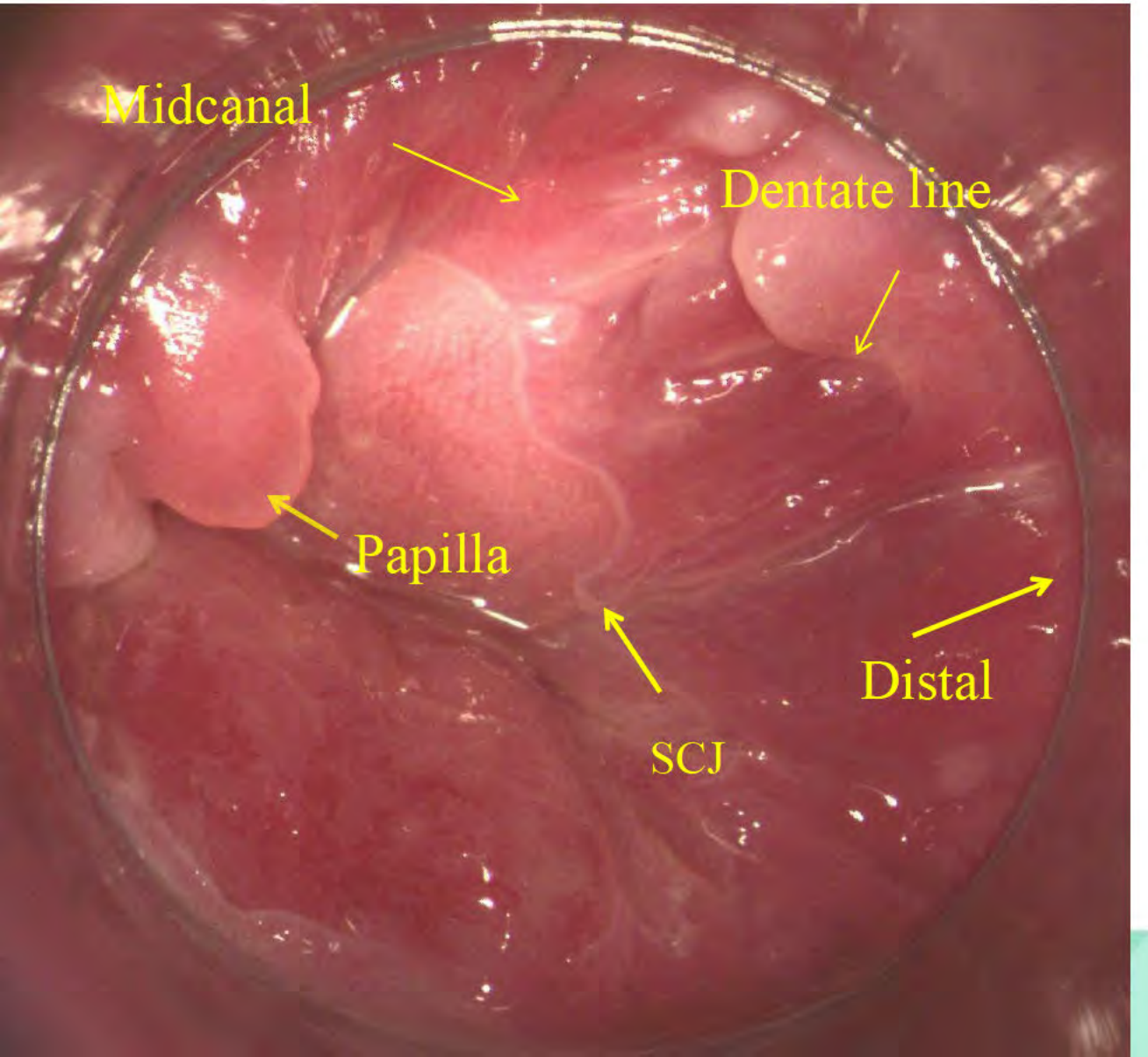


Anal Transformation Zone (AnTZ)

- Area of active and prior squamous metaplasia.
- Zone between and including the original and current SCJ.
- Susceptible to abnormal changes.



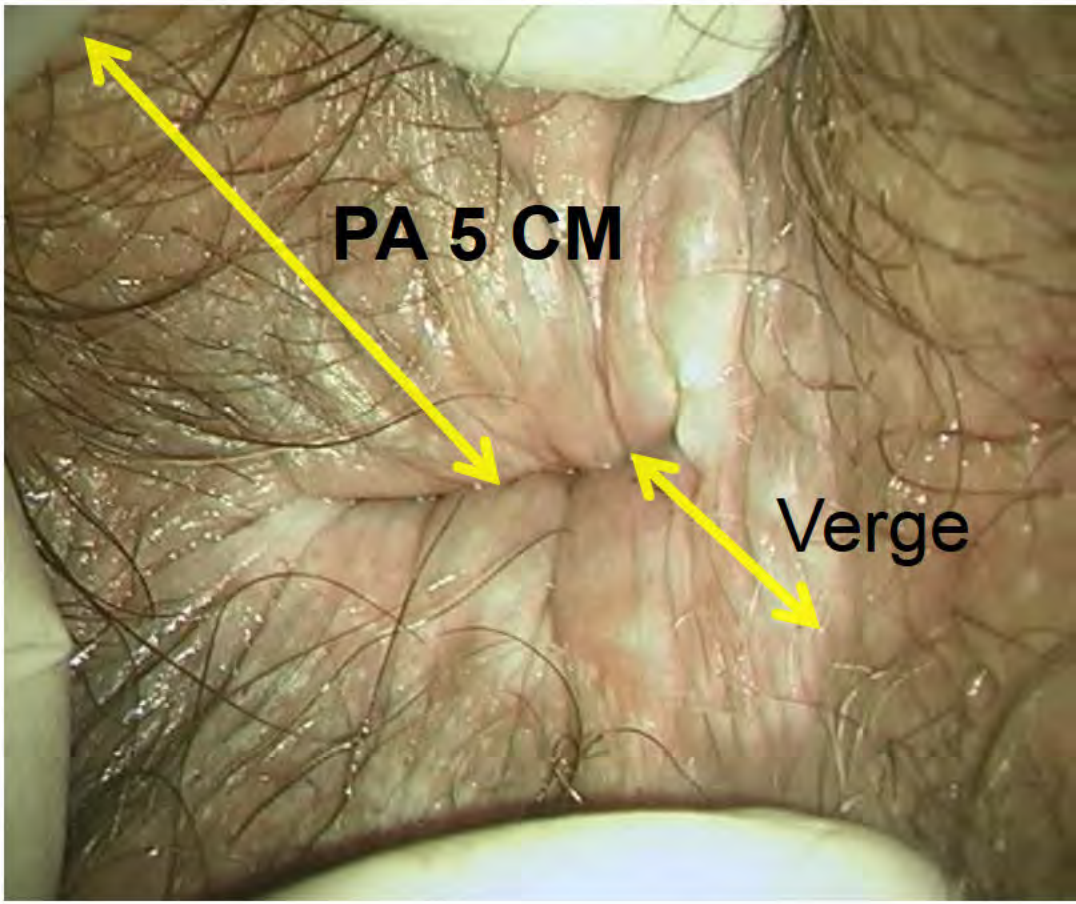
Mid to Distal & Dentate Line



- Definition of dentate line source of confusion.
- Enervated; anal papillae are common.
- Midcanal is OTZ.
- Distal canal is from midcanal to verge.

Perianus/Anal Margin

- Verge - distal end of anal canal where squamous epithelium becomes true skin. Ends where hair follicles of the perianus are seen.
- Perianal skin extends 5 cm from the verge; shorter distance to introitus.
- Consider the midpoint of the perineum to be the distal end of the anterior perianus.



Anal SCJ & AnTZ

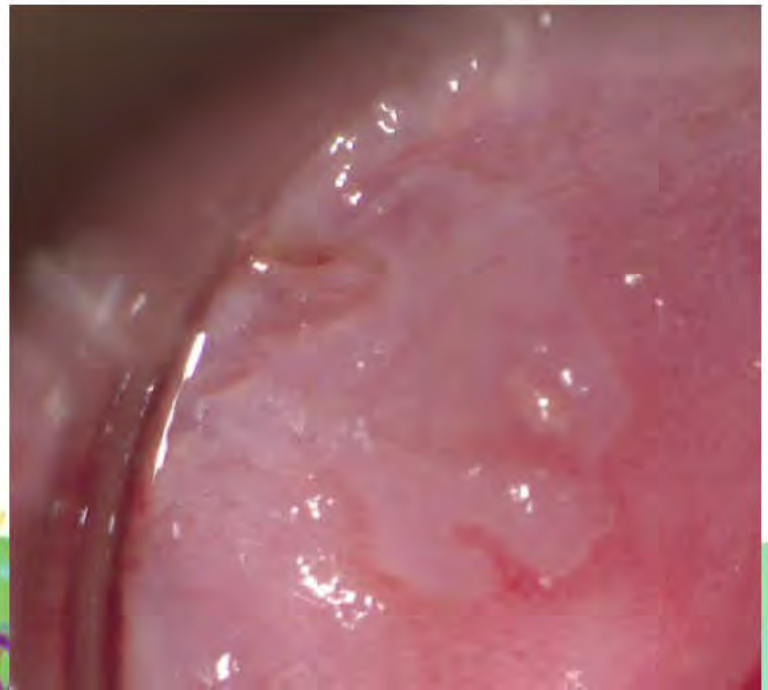
- Original *vs.* current SCJ less relevant.
- TZ features less common, therefore more difficult to appreciate.
- SCJ more subtle, difficult to see in entirety requires more manipulation & acetic acid.
- Larger area of metaplastic changes overlying columnar epithelium compared to endocervix.
- Most lesions found in the AnTZ.

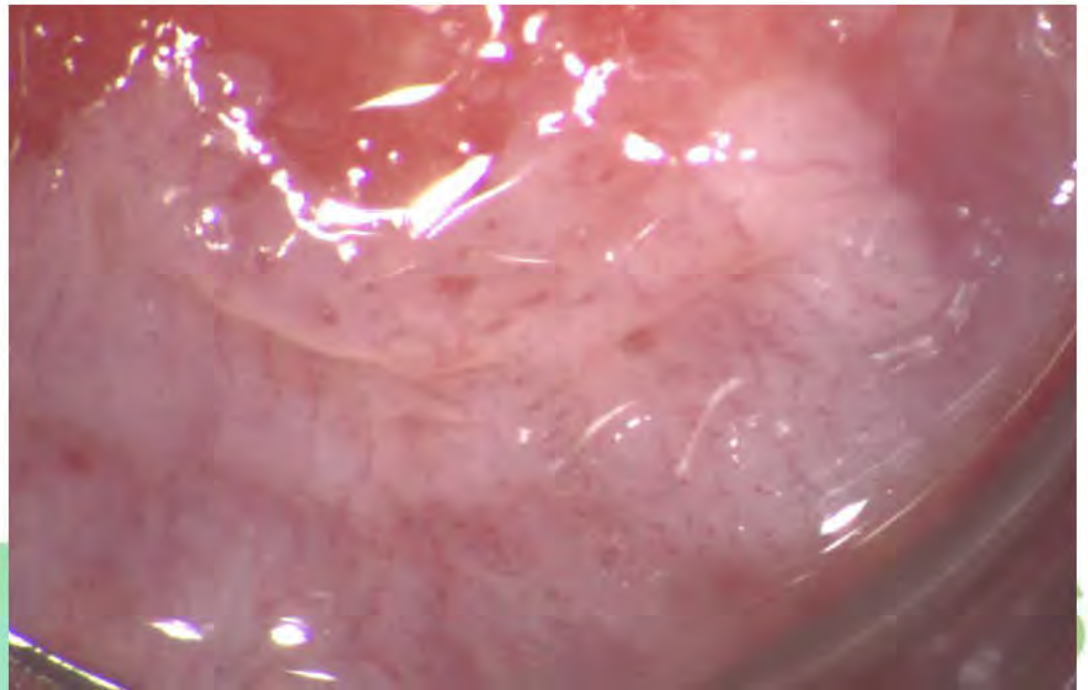
Lesion Descriptors

Category	LSIL	HSIL
Color	Shiny acetowhite, barely acetowhite	Flat white, matted tone, grey, red
Margins	Distinct, indistinct, sharp, jagged	Distinct, indistinct
Contour	Flat, raised, verrucous, micropapillae	Flat, thickened, eroded, friable
Vessels	Warty, punctation as a single finding, striated, rare mosaic, fine increased vascularity	Coarse mosaic, coarse punctation, atypical, variable dilations
Metaplastic Changes	(slightly atypical metaplasia may be atypia, rarely LSIL)	Lacy metaplasia, atypical clustered glands, honeycombing
Lugol's	Positive, partial, negative	Negative

Acetowhite Epithelium (AWE)

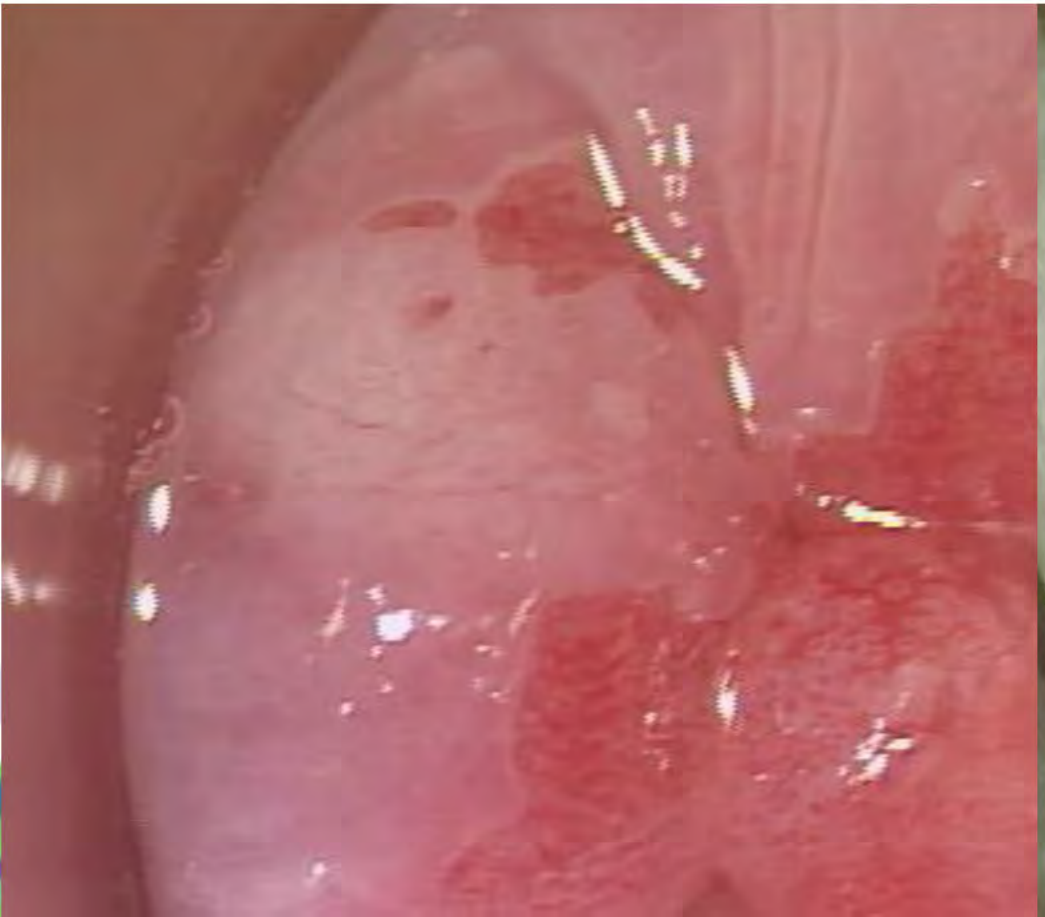
- Demarcated area of whitening appears after application of acetic acid.
- At/near the SCJ, overlying rectal mucosa connected to the SCJ, or in the distal canal or perianus.
- May represent a lesion or squamous metaplasia



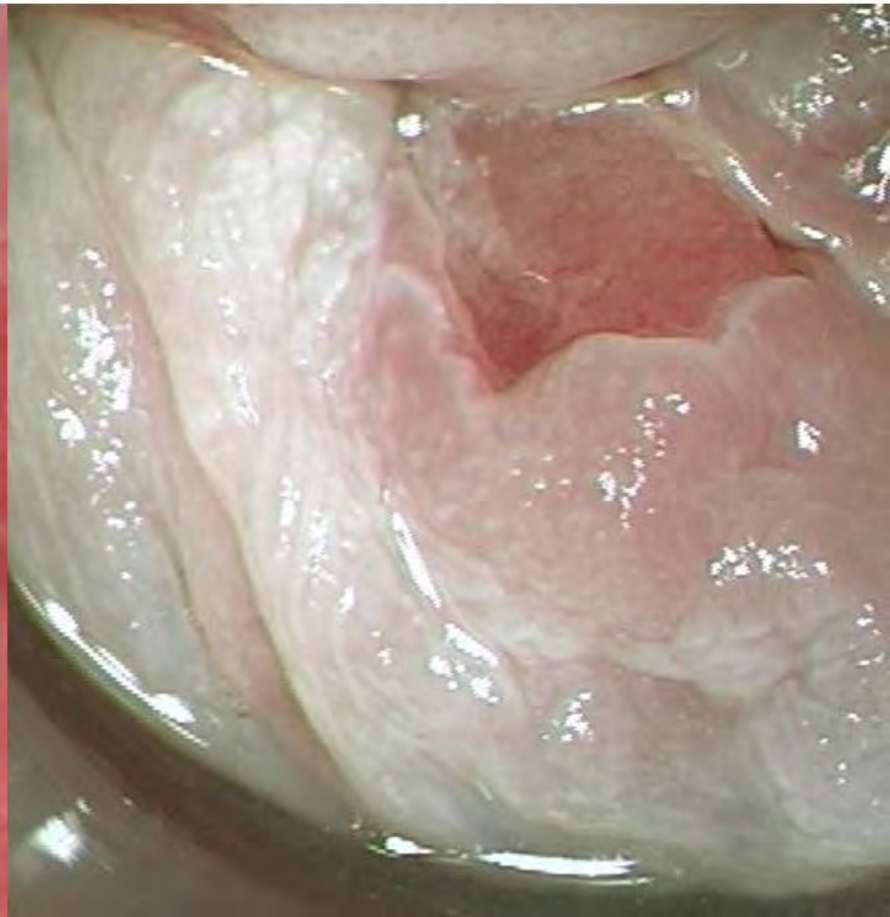


Color

Indistinct acetowhite, flat tone white, shiny



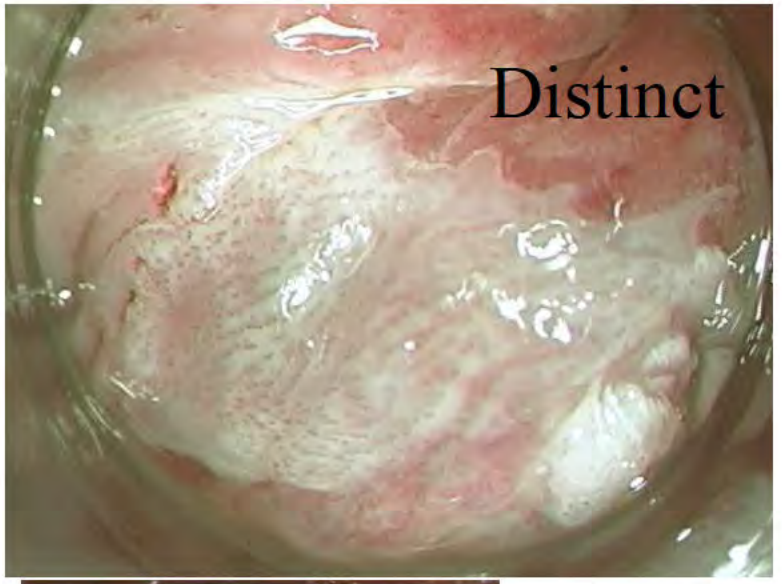
Distinct acetowhite

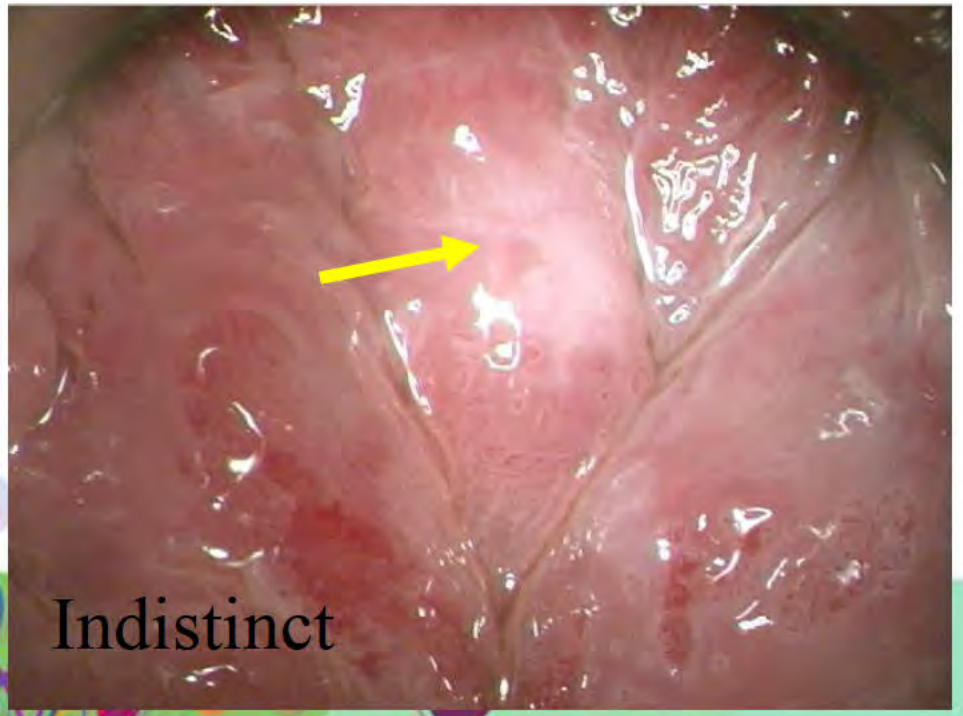


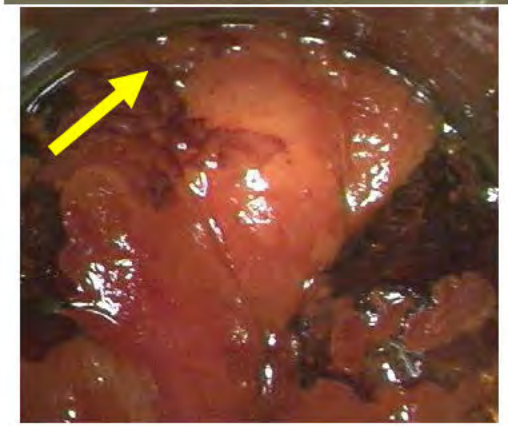
Margins/Borders

Distinct or indistinct

- Edge adjacent to colon frequently indistinct
- Lugol's may blur or make it more distinct

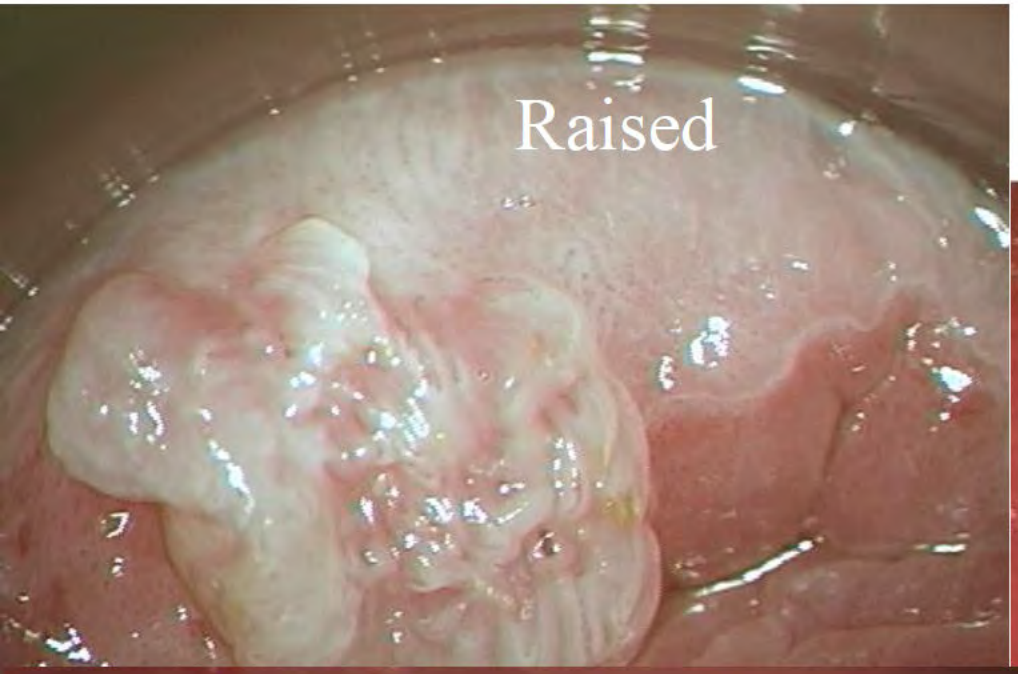


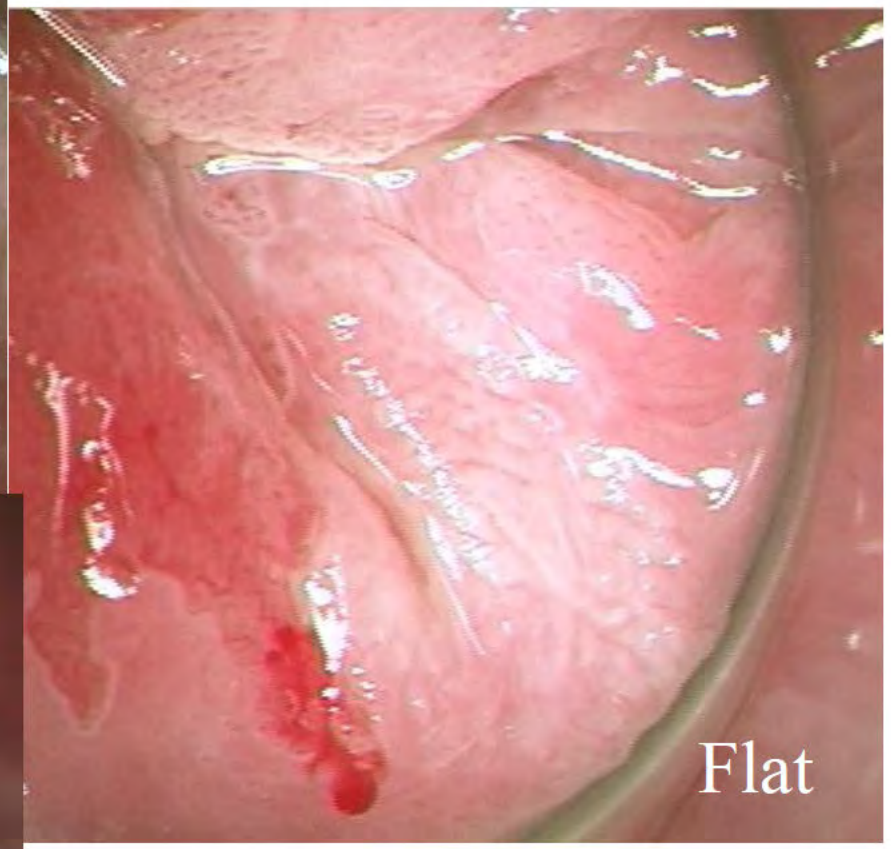


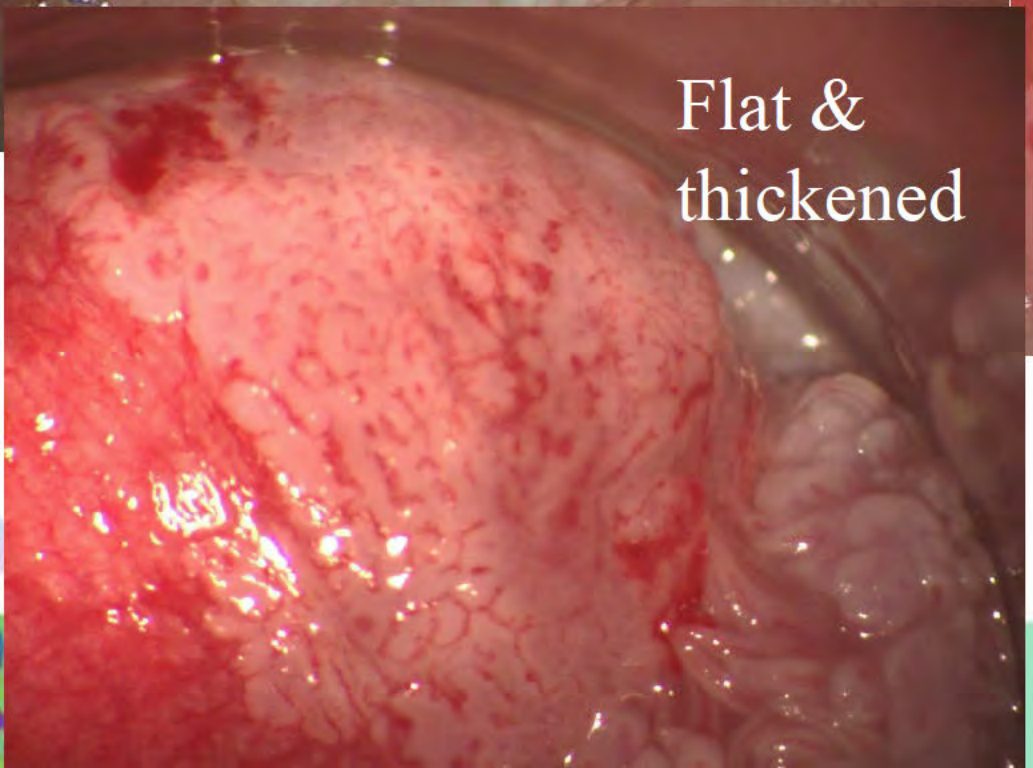


Margins clear with Lugol's

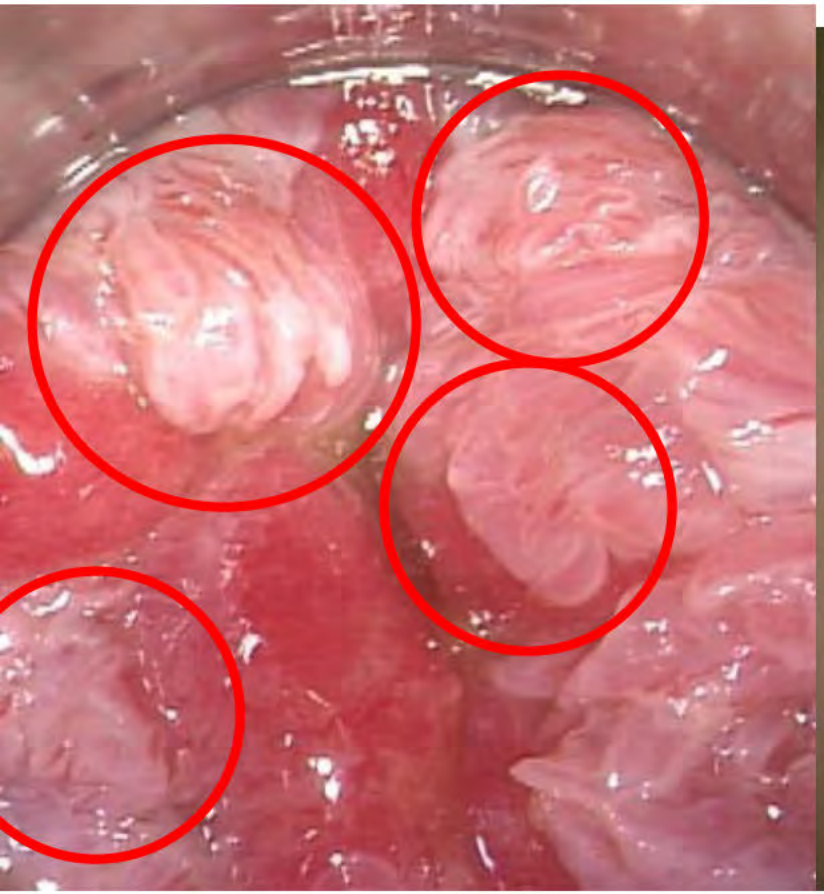
Contour

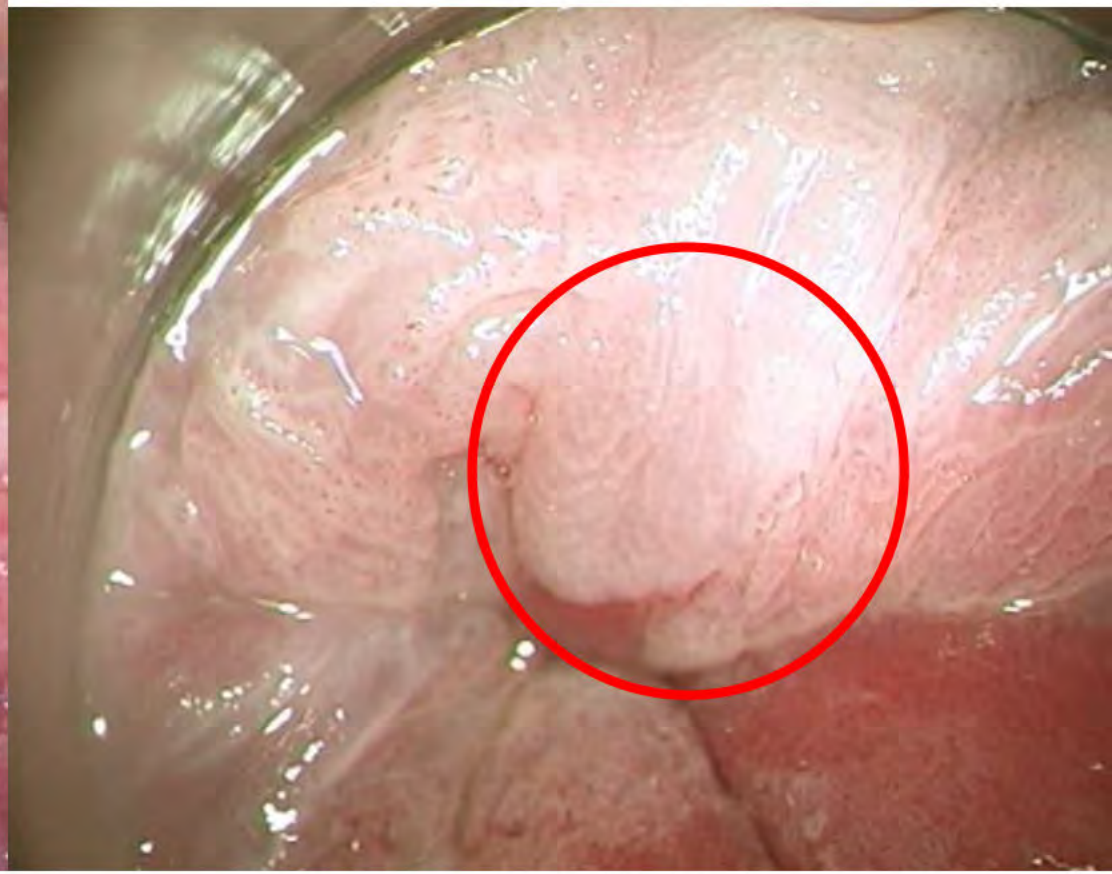






Contour: Papillae & Micropapillae





Papillae: raised

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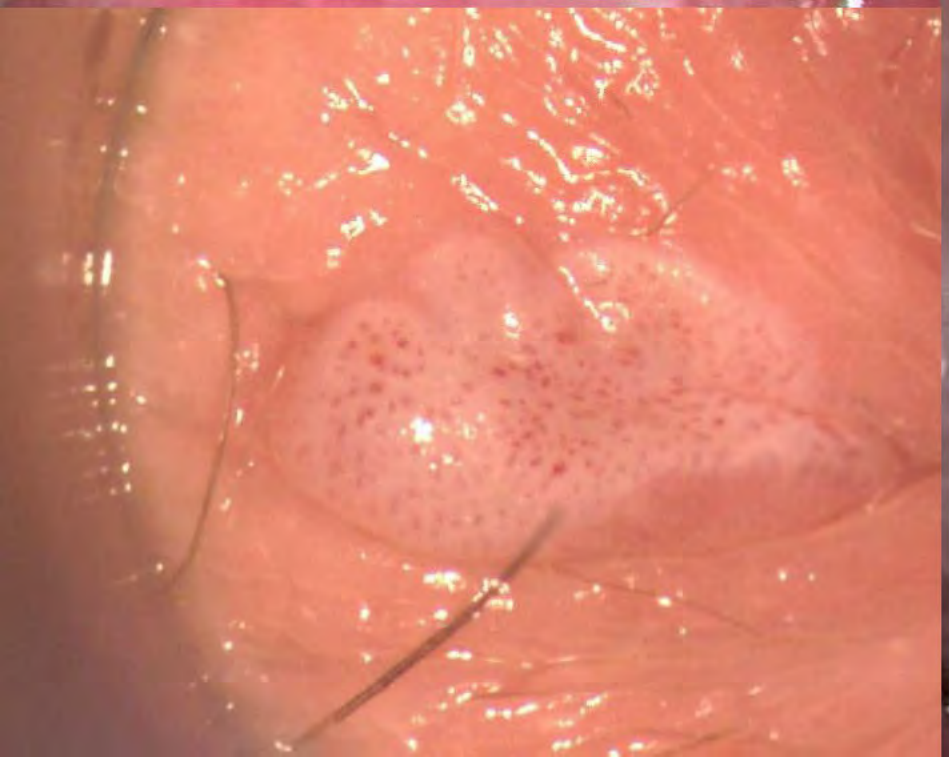
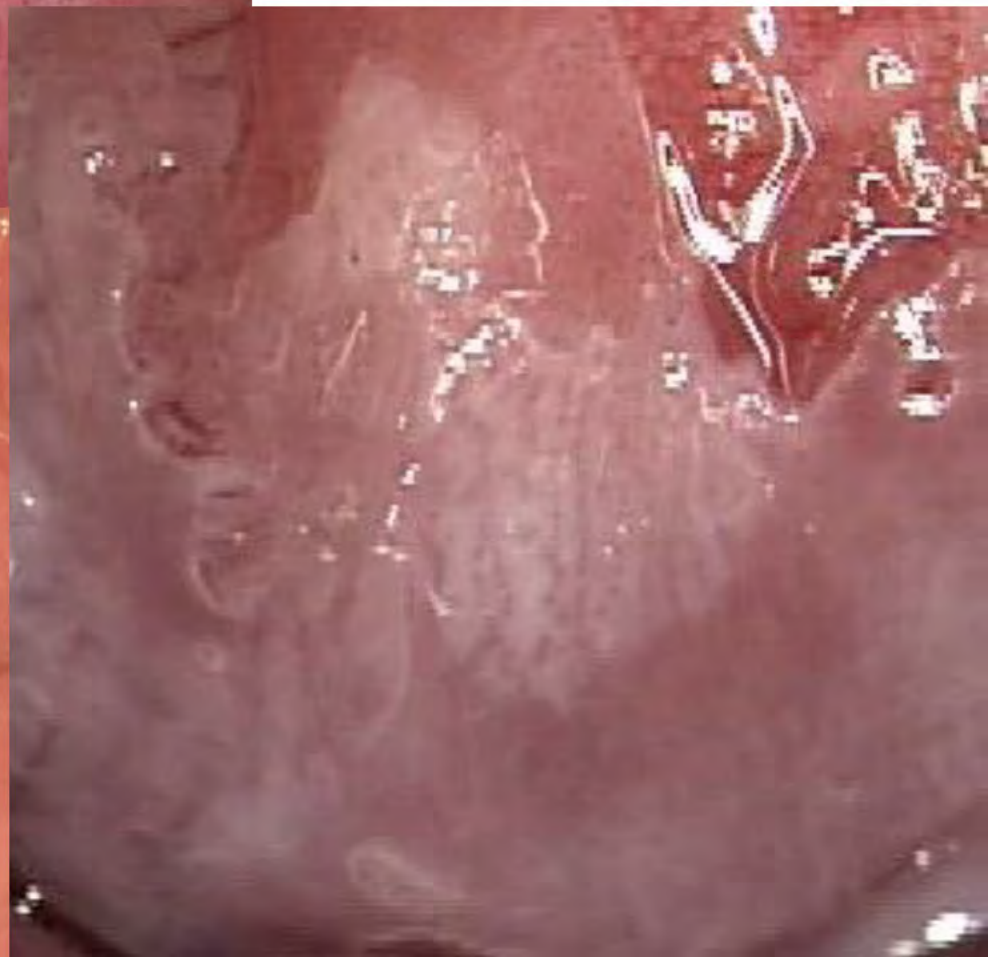
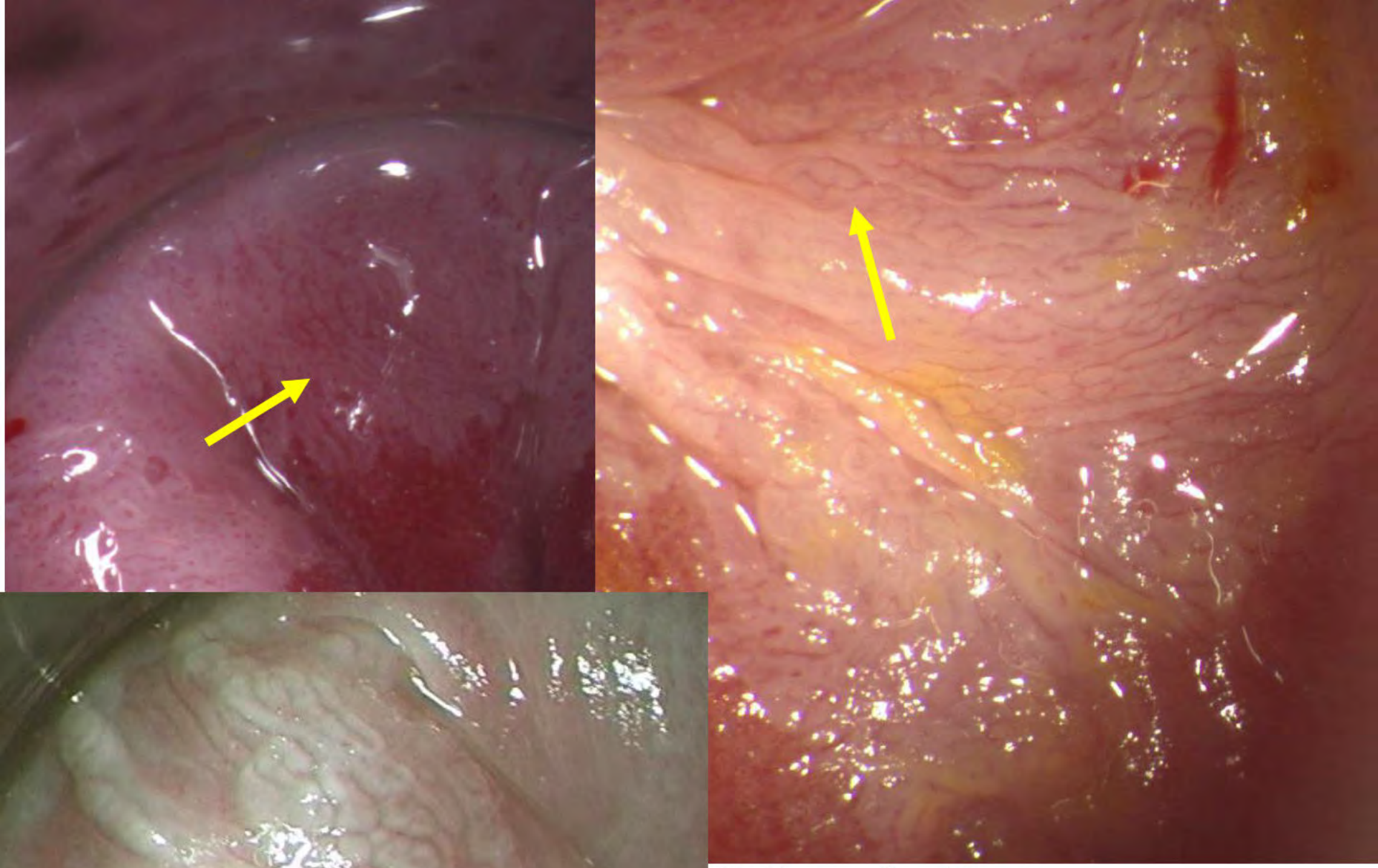
Vessels: Punctation (CP)







Mosaic Pattern

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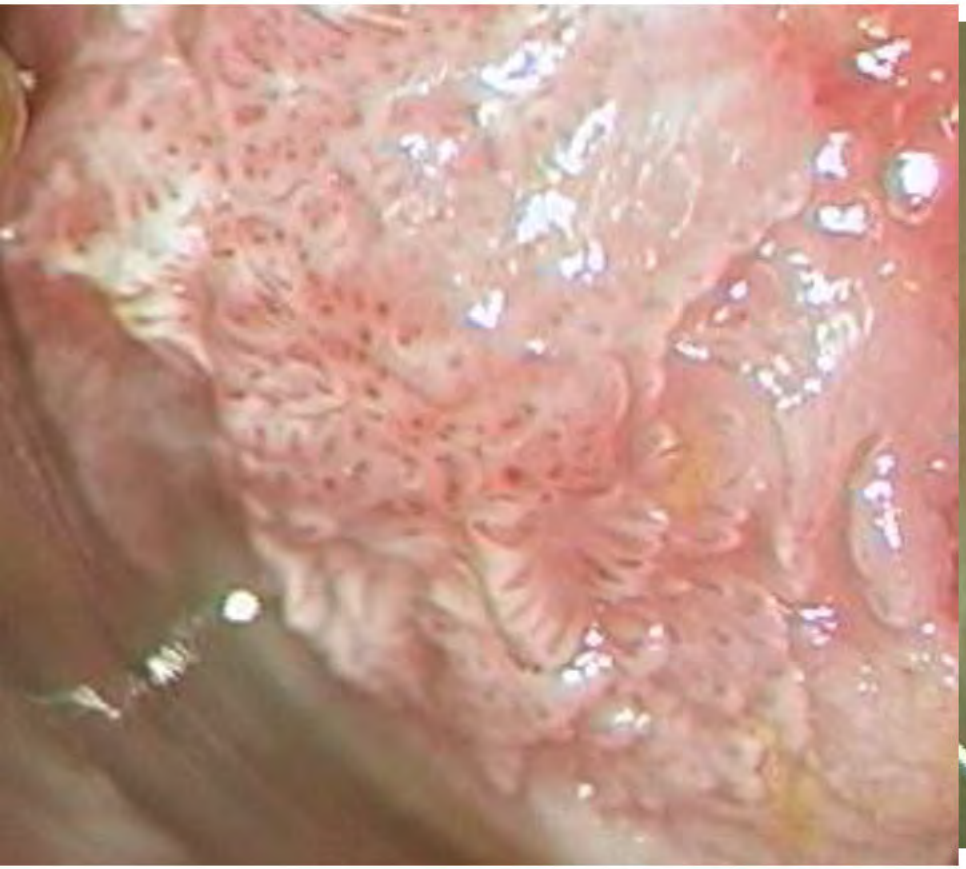
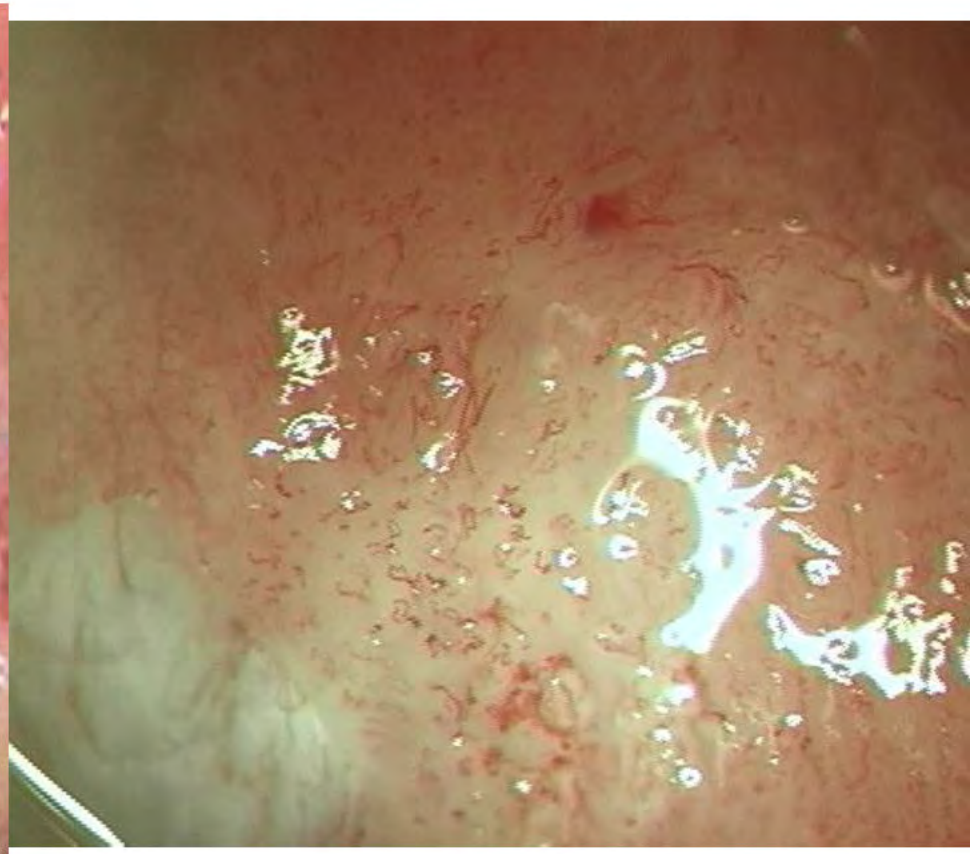
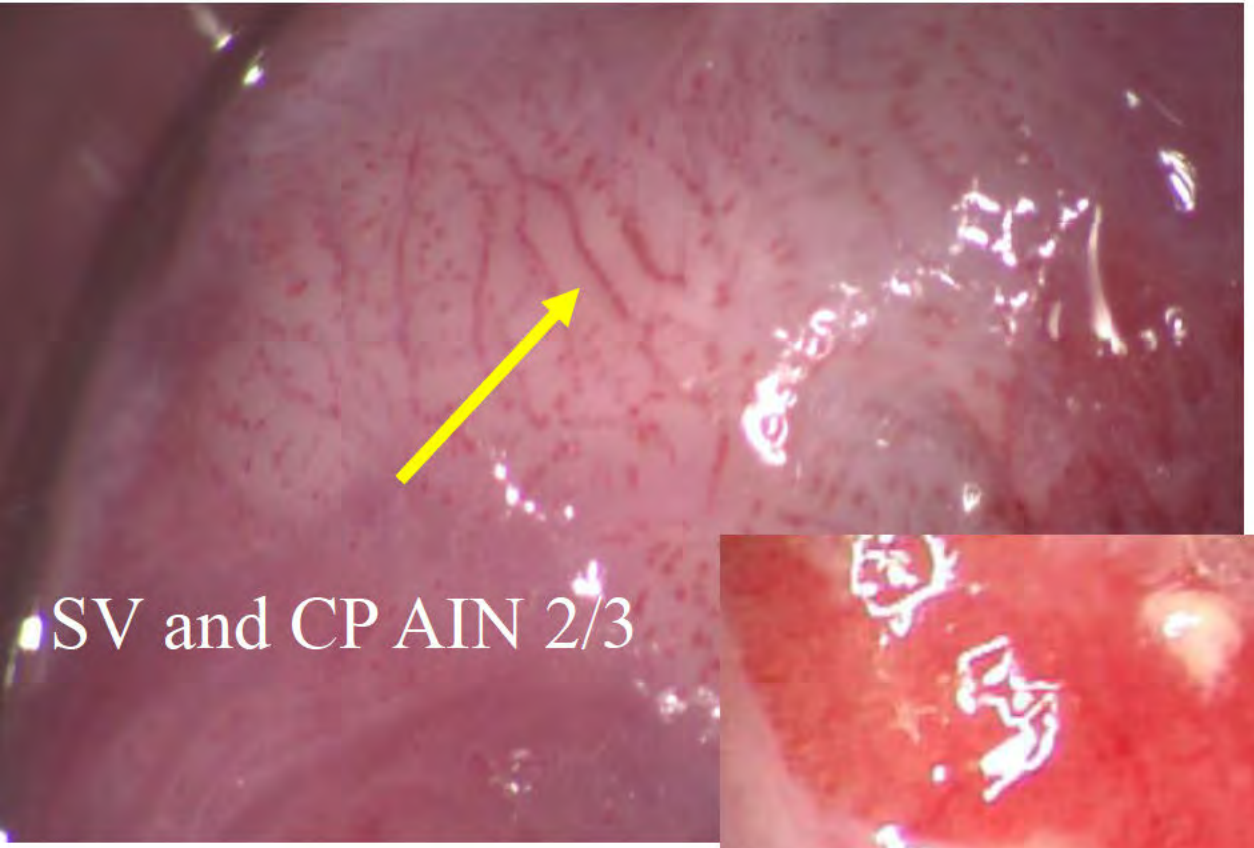
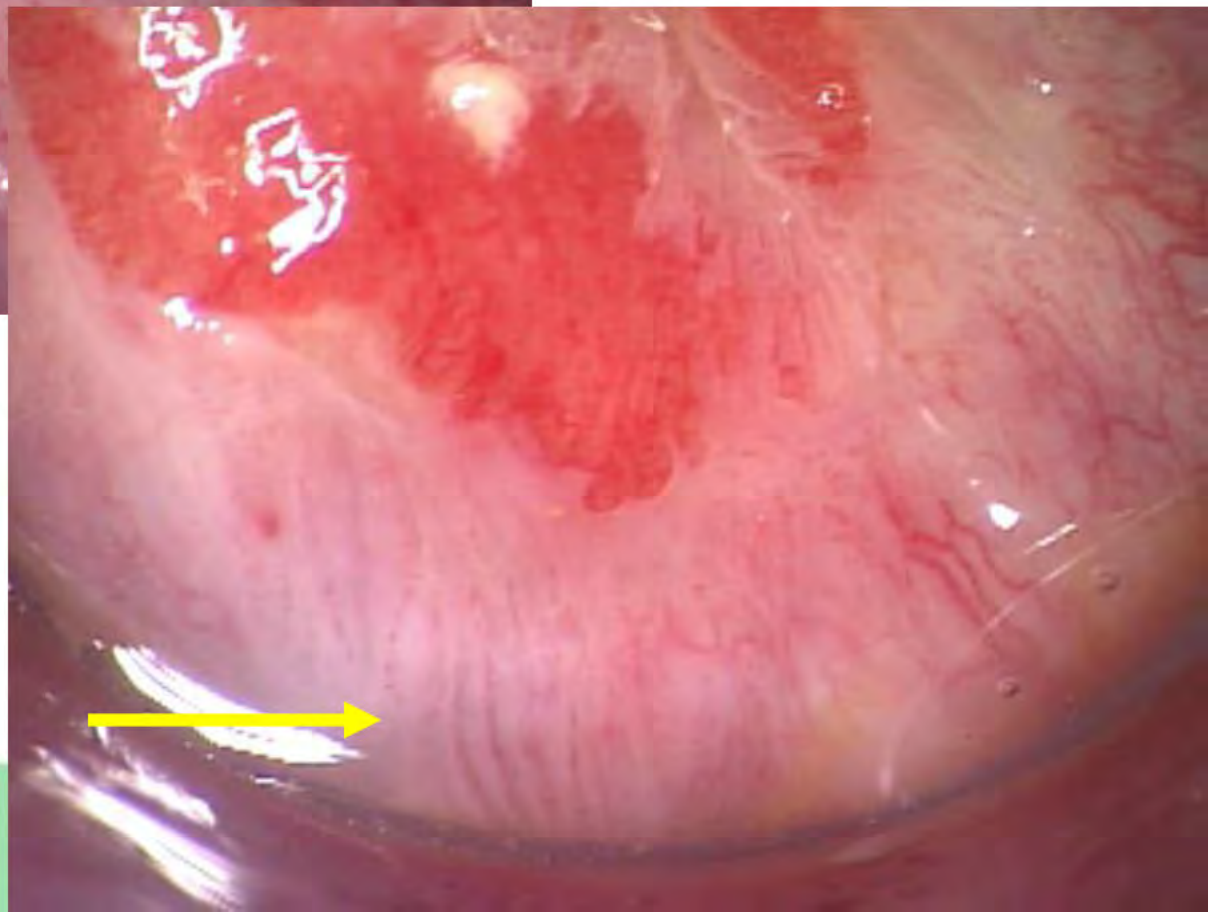






SV and CP AIN 2/3

Striated Vessels (SV)

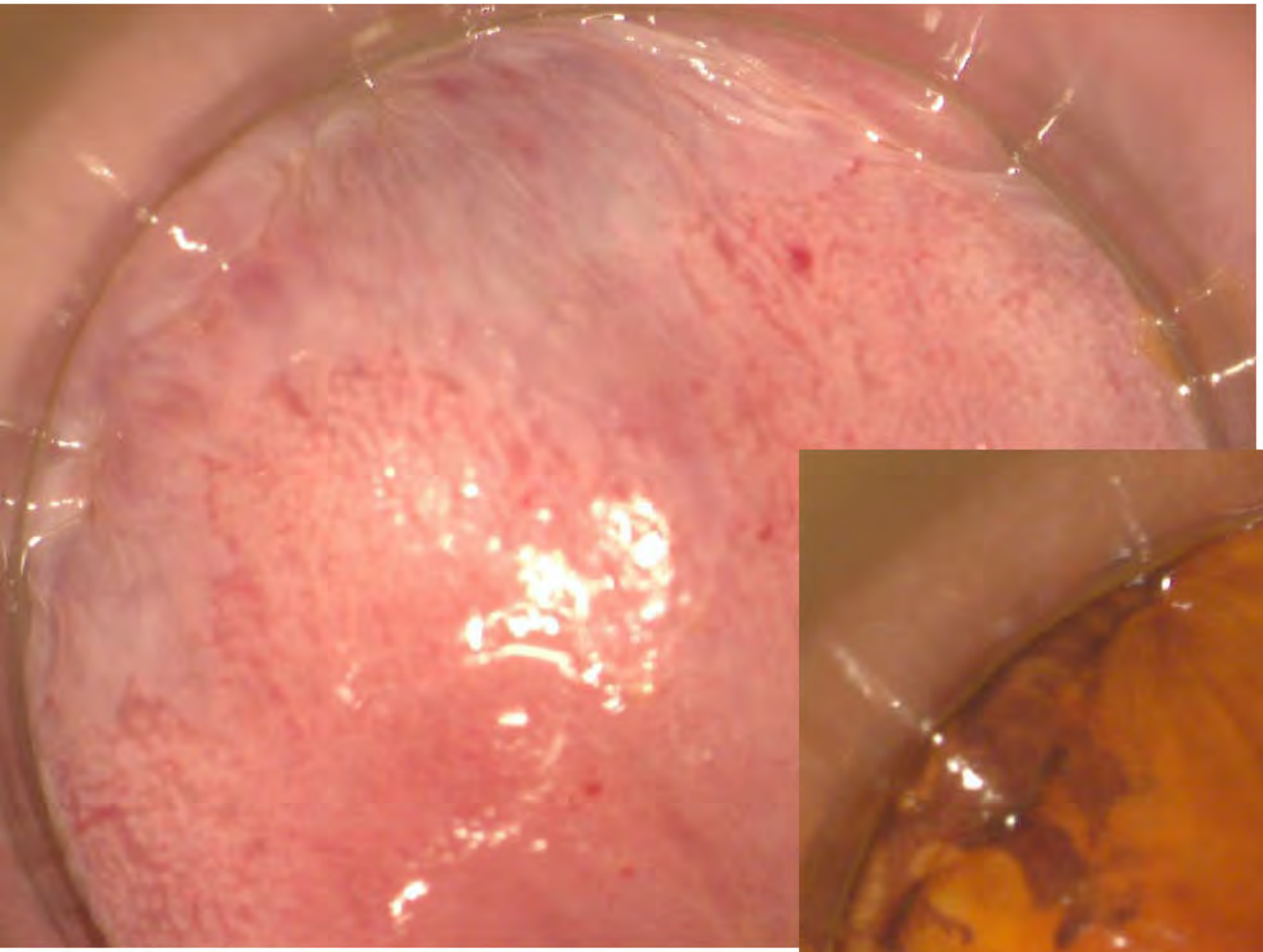


Immature Reactive Squamous Metaplasia (IRSM)

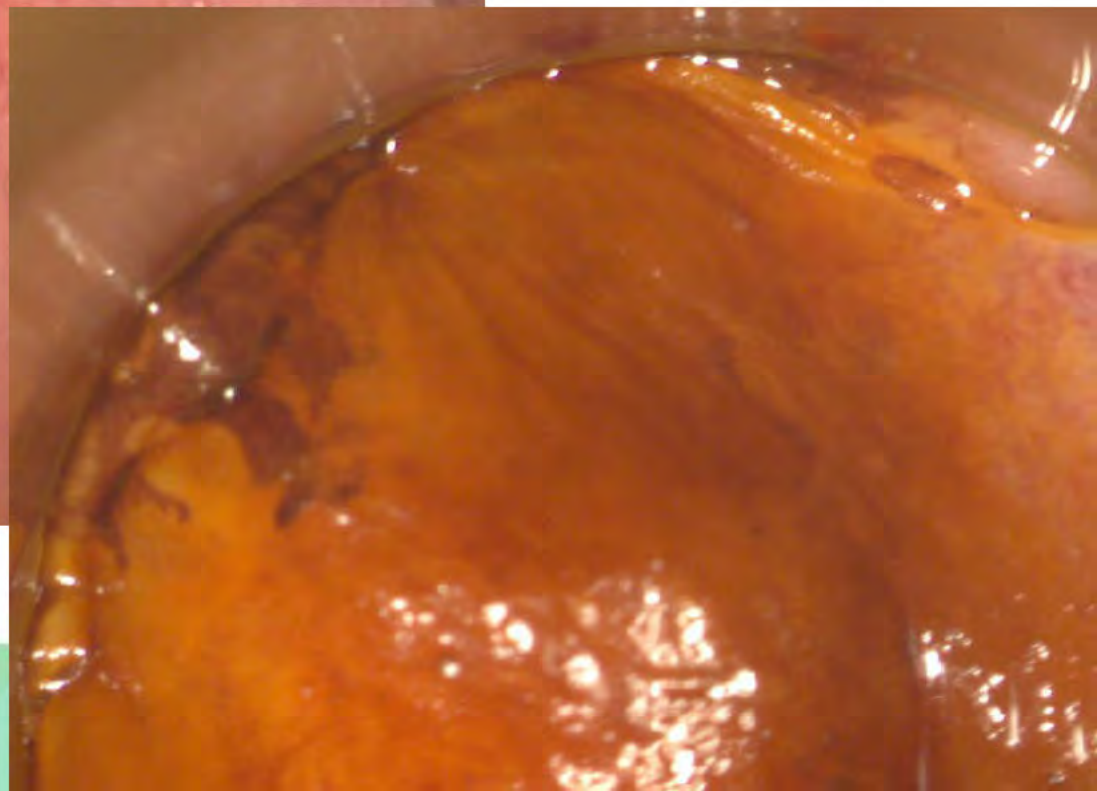
Atypical Metaplasia

- Atypical metaplasia may indicate the presence of HSIL.
- Radiate over distal rectum from SCJ.
- Thin, may wipe off.
- Features to look for indicating potential lesions:
  - Atypical clustered glands (ACG)
  - Lacy metaplastic borders (LM)
  - Epithelial Honeycombing (EH)

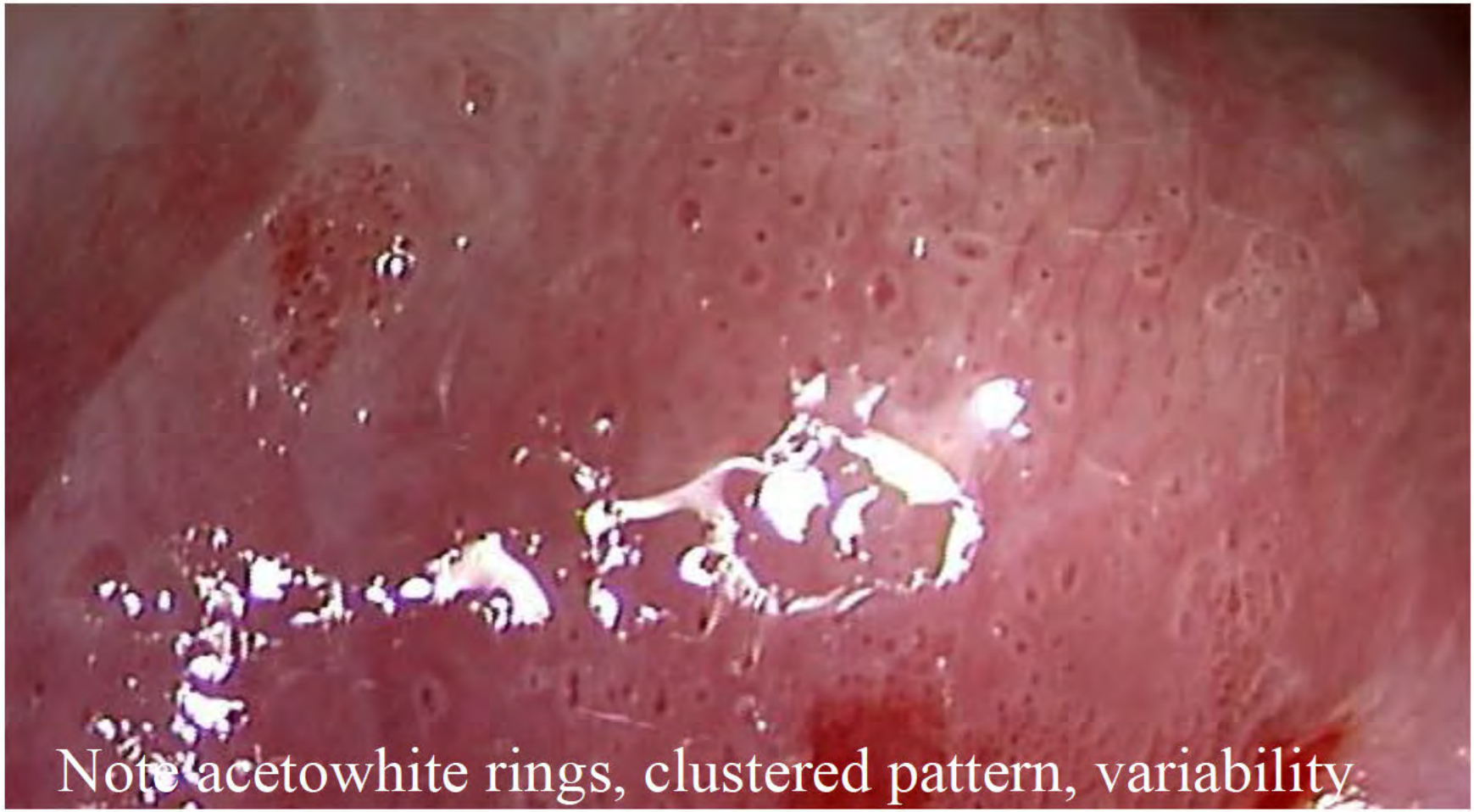
Normal Metaplasia



Lugol's negative staining (biopsied d/t history of Vulvar & PA HSIL)



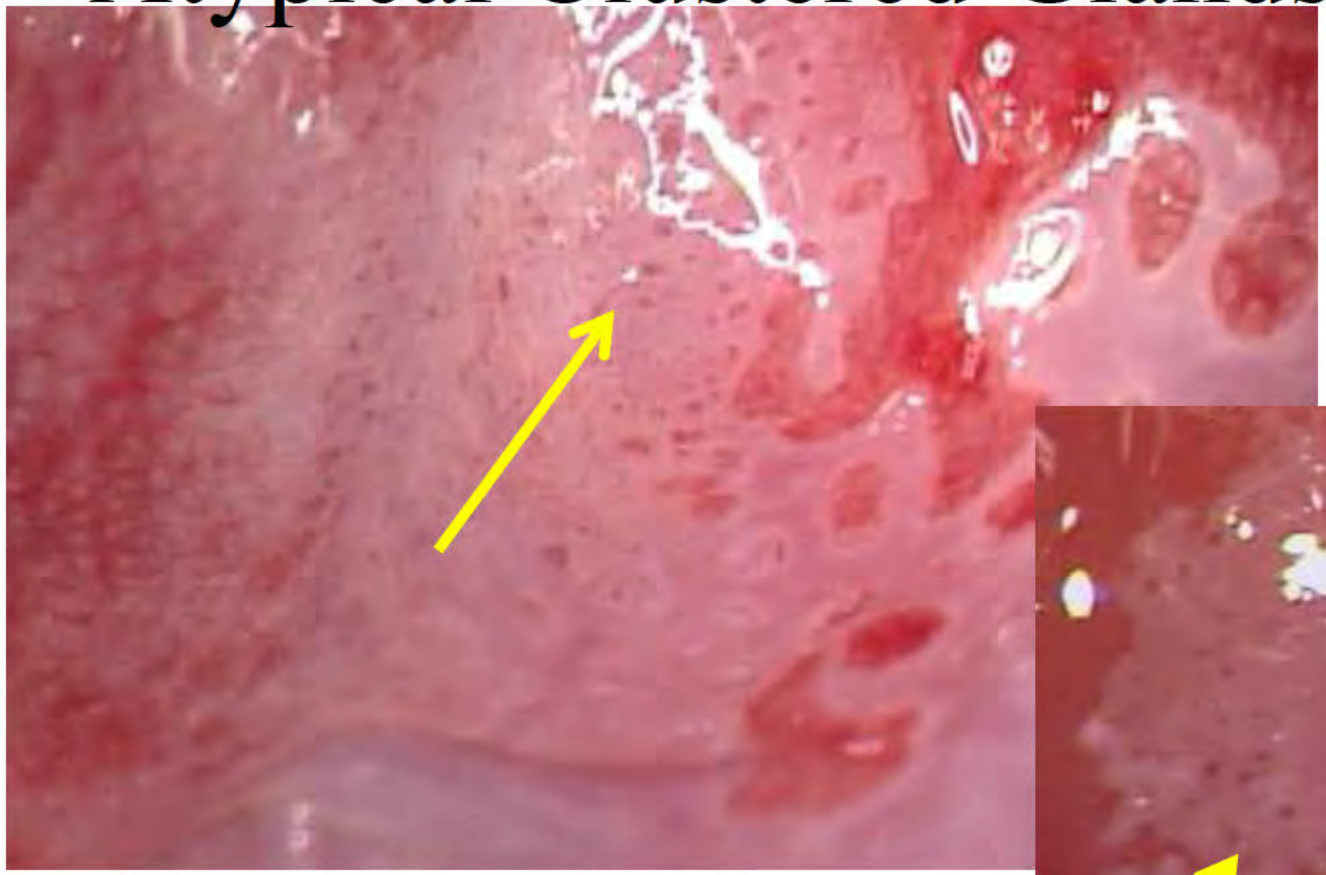
Atypical Clustered Glands

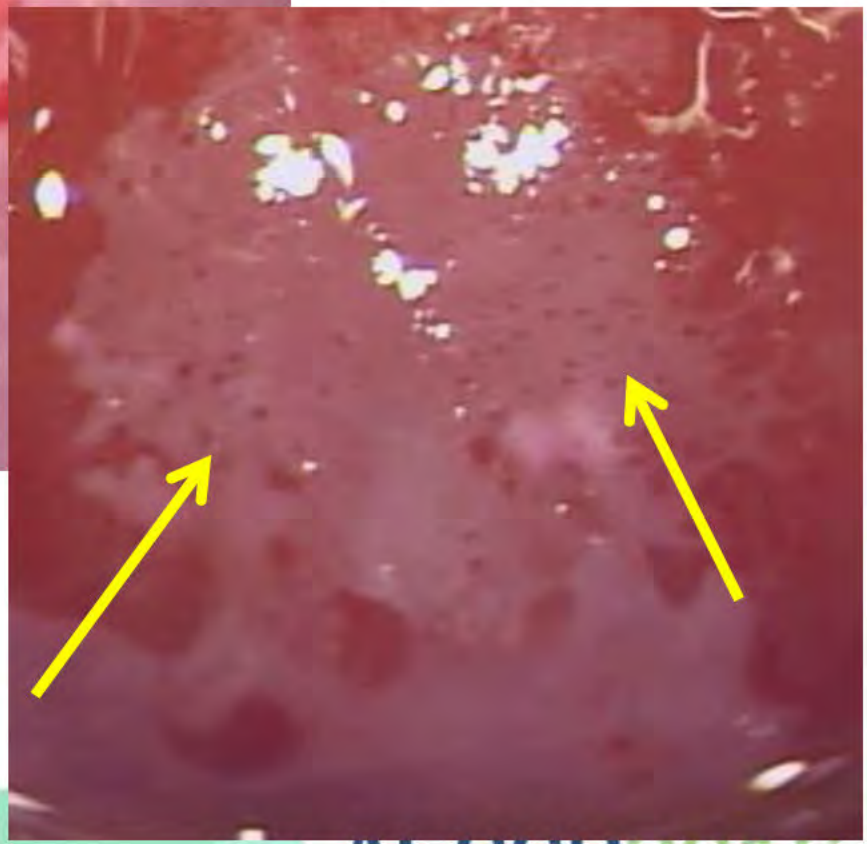


Note acetowhite rings, clustered pattern, variability in size of gland openings.

Atypical Clustered Glands (ACG)

HSIL (AIN 3)

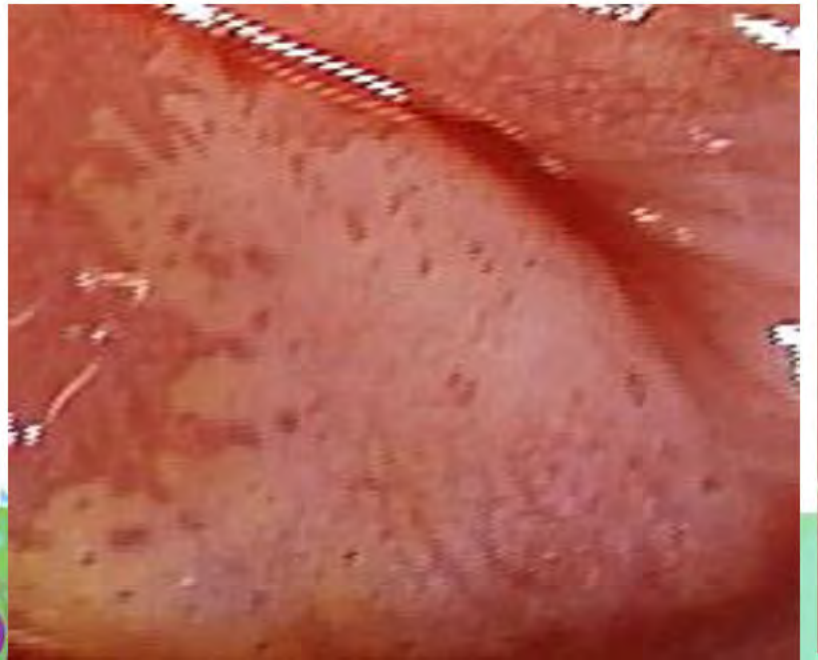


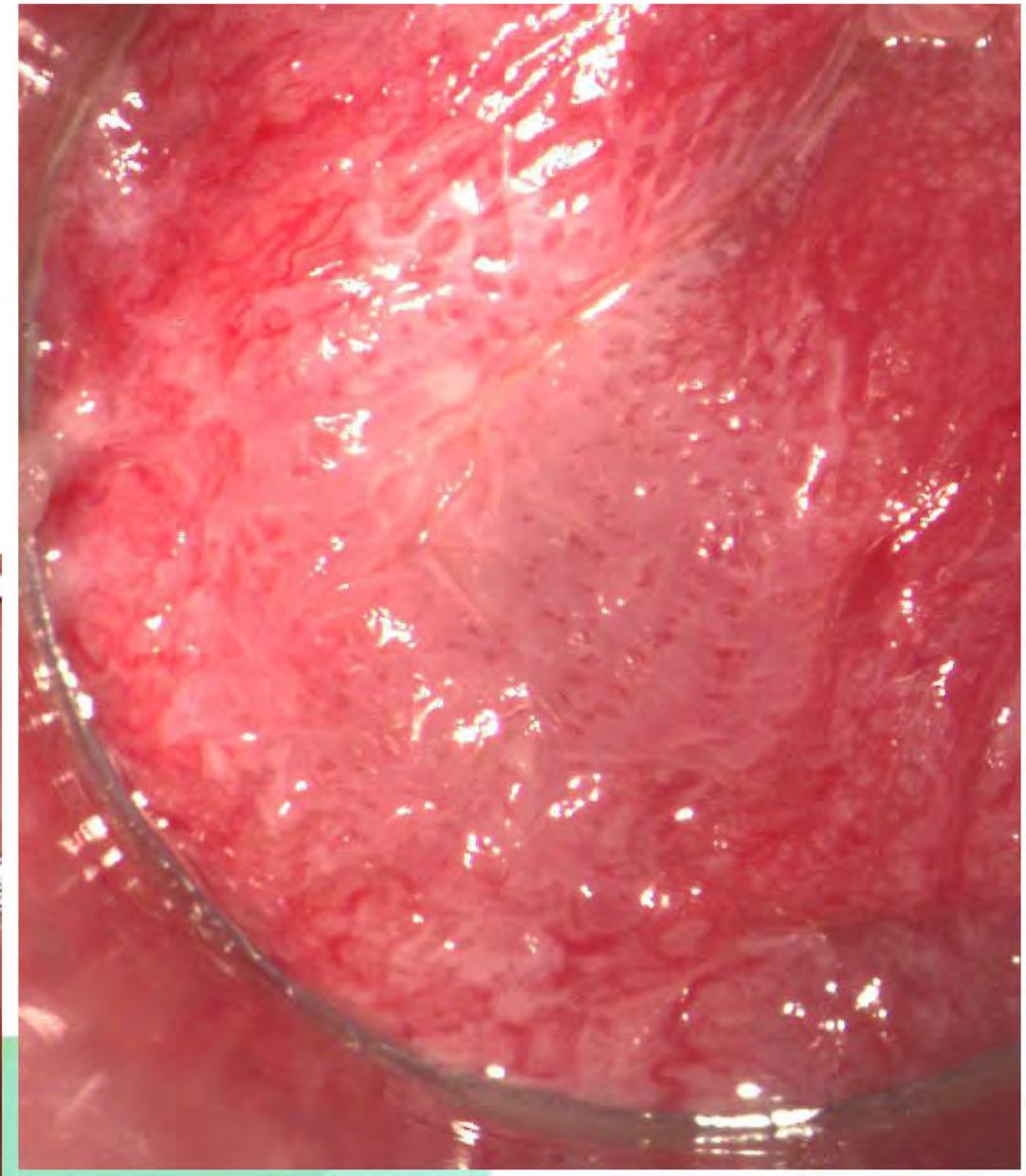


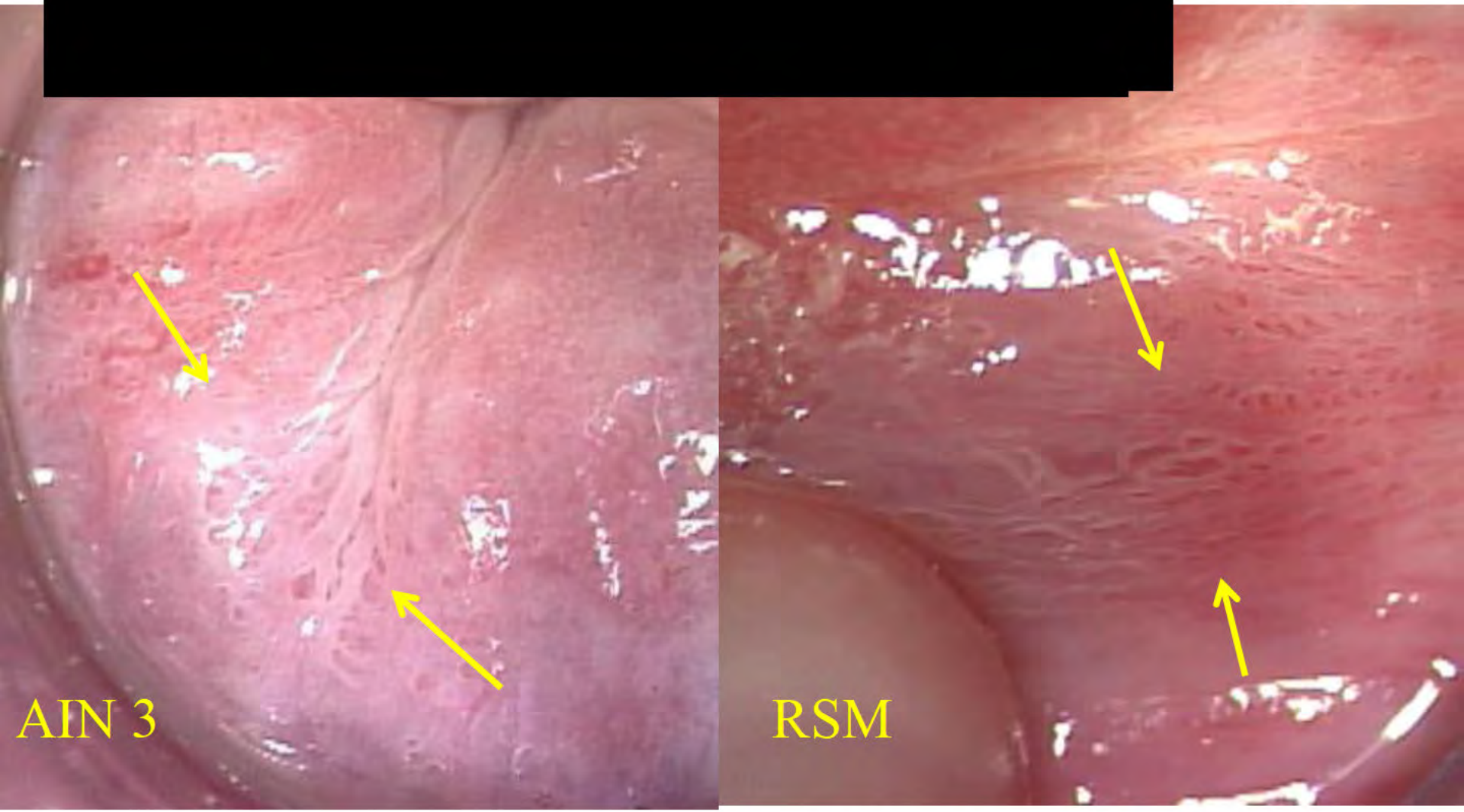
Lesions radiate from the SCJ over rectal mucosa; therefore examine the distal aspects of colon adjacent to SCJ

Lacy Metaplasia

- AWE "lacy" edges
- Radiate over distal rectal aspect of AnTZ
- Often with ACG



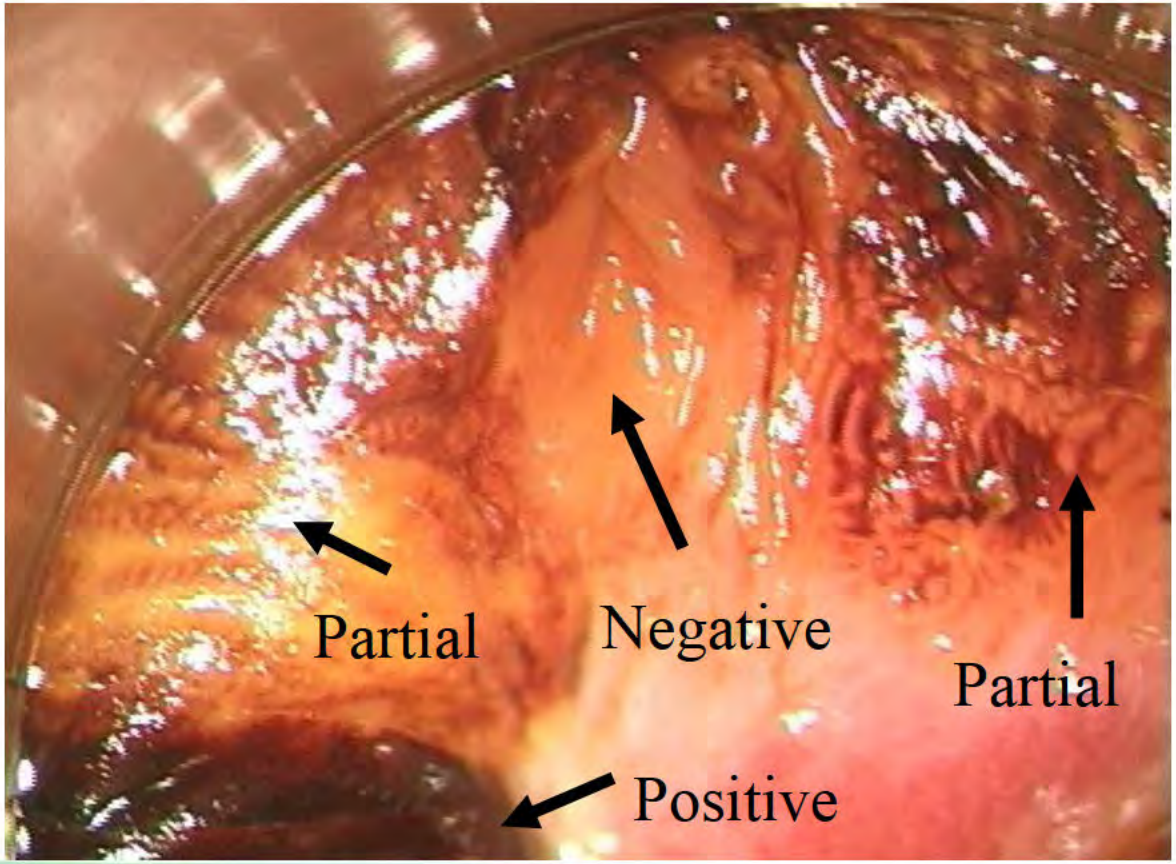




On spectrum of tissue undergoing metaplasia - when HSIL is usually LN

Lugol's Staining

- Negative – no stain, slight yellow
- Partial – variable, speckled
- Positive – mahogany, dark brown



Lugol's Staining

- More utility in anus compared to cervix.
- Adjunctive to help define borders, distinguish between possible LSIL/HSIL.
  - Most HSIL will be Lugol's negative
  - LSIL may be Lugol's partial or negative
- Applied focally with small cotton swabs to better define an acetowhite lesion.
- ***NOT*** a short cut to determine presence or absence of lesions, acetic acid is used first and is applied frequently.

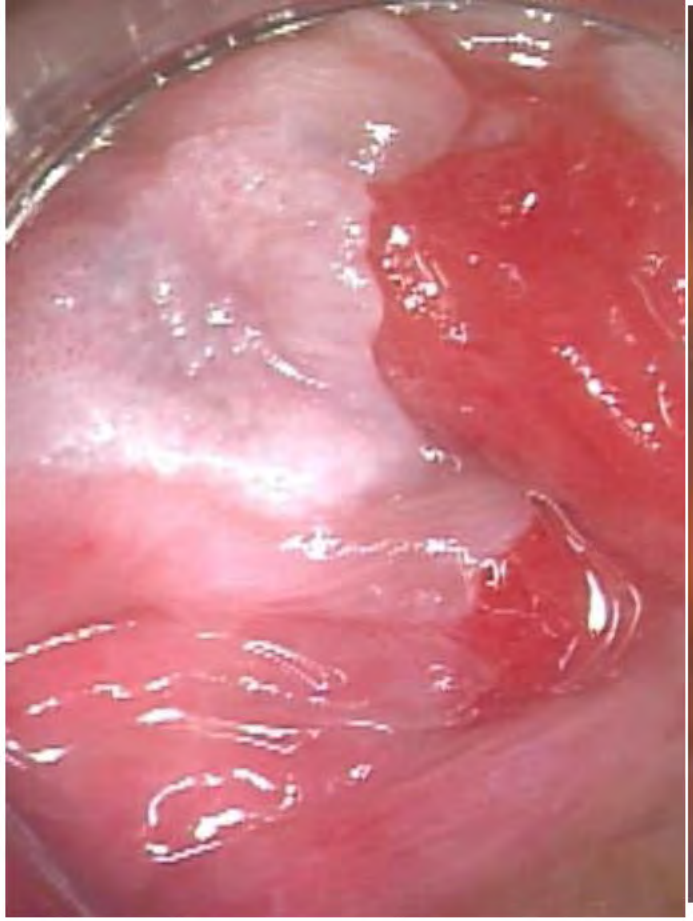
Anal vs. Cervical Characteristics

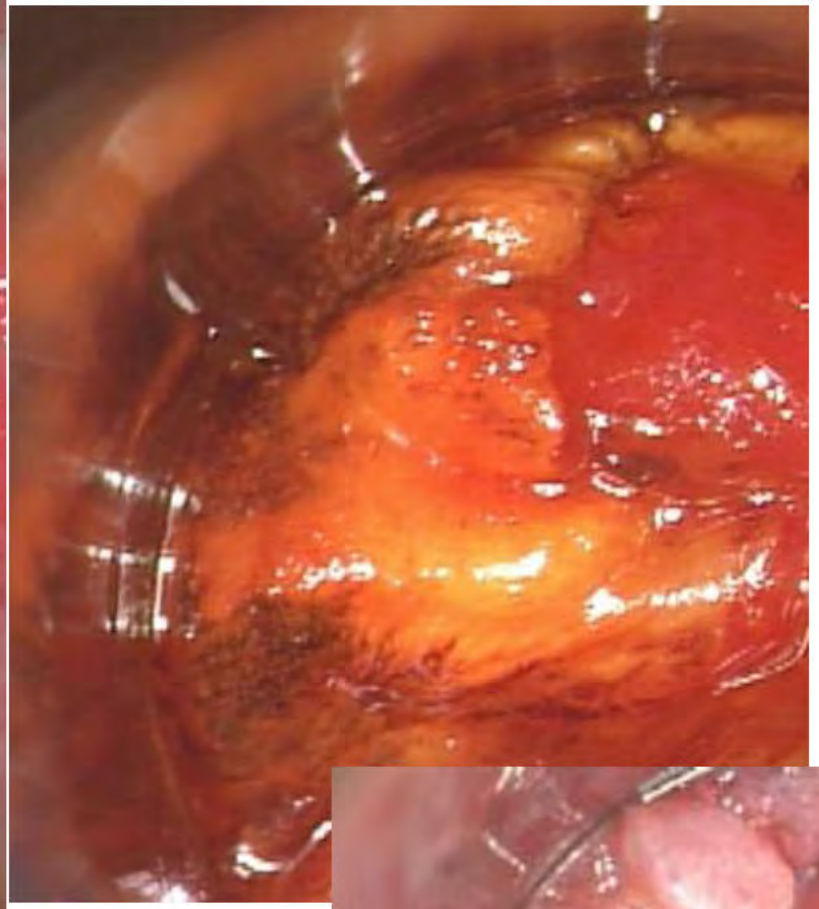
- Punctation & Mosaic rarely “fine” mostly “coarse”.
- Mosaic pattern mostly associated with HSIL.
- Atypical vessels may be HSIL or cancer
- Epithelial honeycombing & lacy metaplasia unique anal descriptors.

Typical LSIL Characteristics

- AWE, raised, papillary, warty vessels, Lugol's partial-complete.
- AWE, shiny, Flat, punctation or none, Lugol's partial-negative.
- Indistinct AWE, micropapillary changes with Lugol's partial.

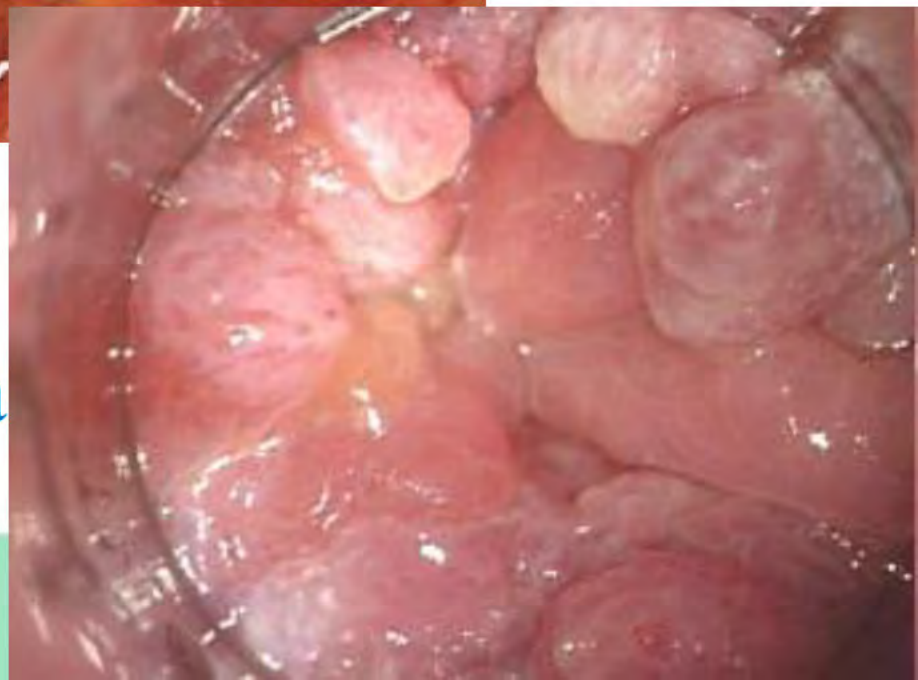
Biopsy to establish diagnosis!





Flat

Raised/condyloma



Typical HSIL Characteristics

- AWE, thickened, grey, flat tone.
- Smooth, sharp or indistinct border.
- Flat or slightly raised smooth thickening.
- Coarse punctation and mosaic pattern.
- Lugol's negative.
- Shallow ulcerations, friability.
- Example: AWE, grey, flat, distinct with CP and CM, LN.

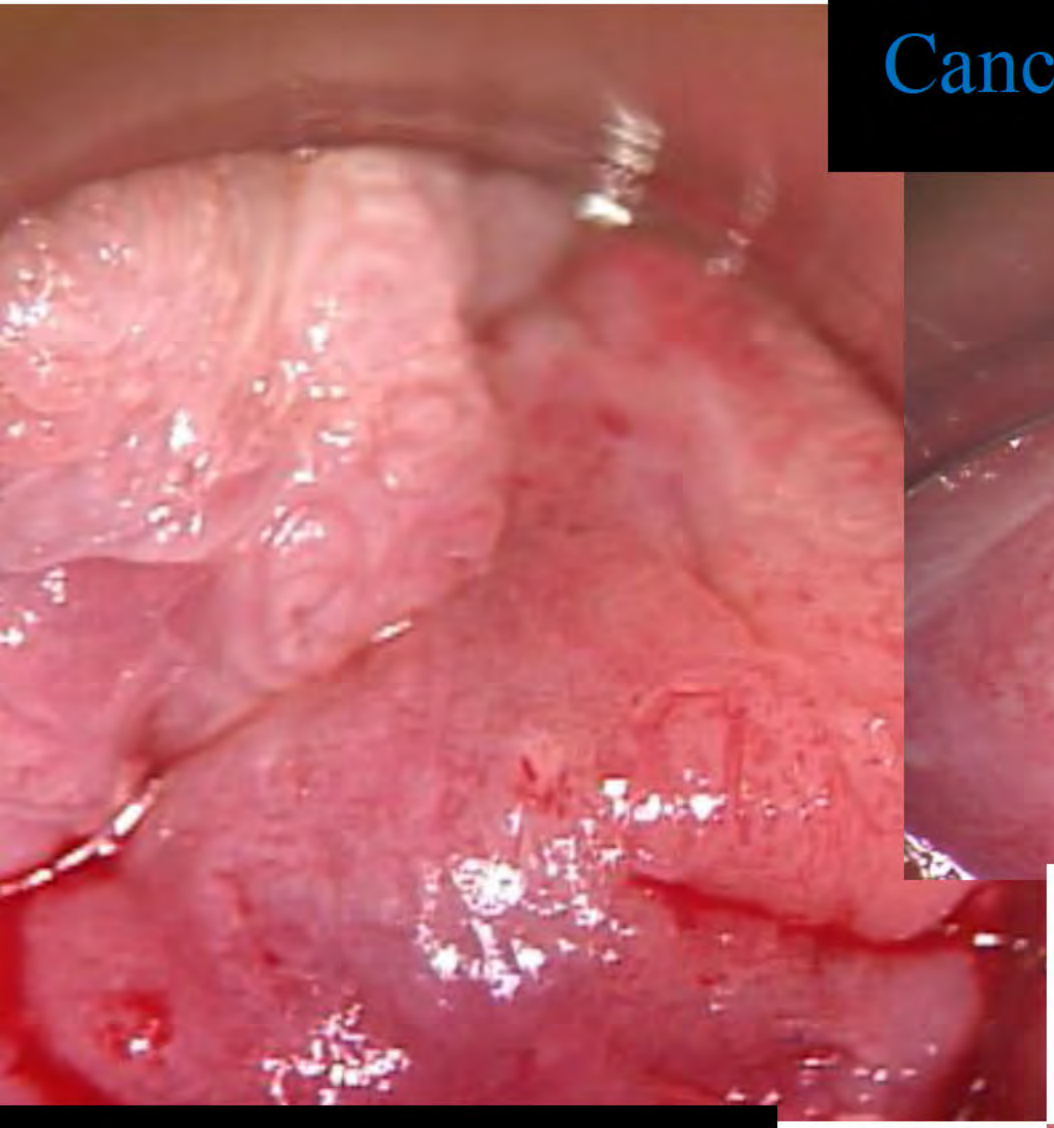
Biopsy to establish diagnosis!

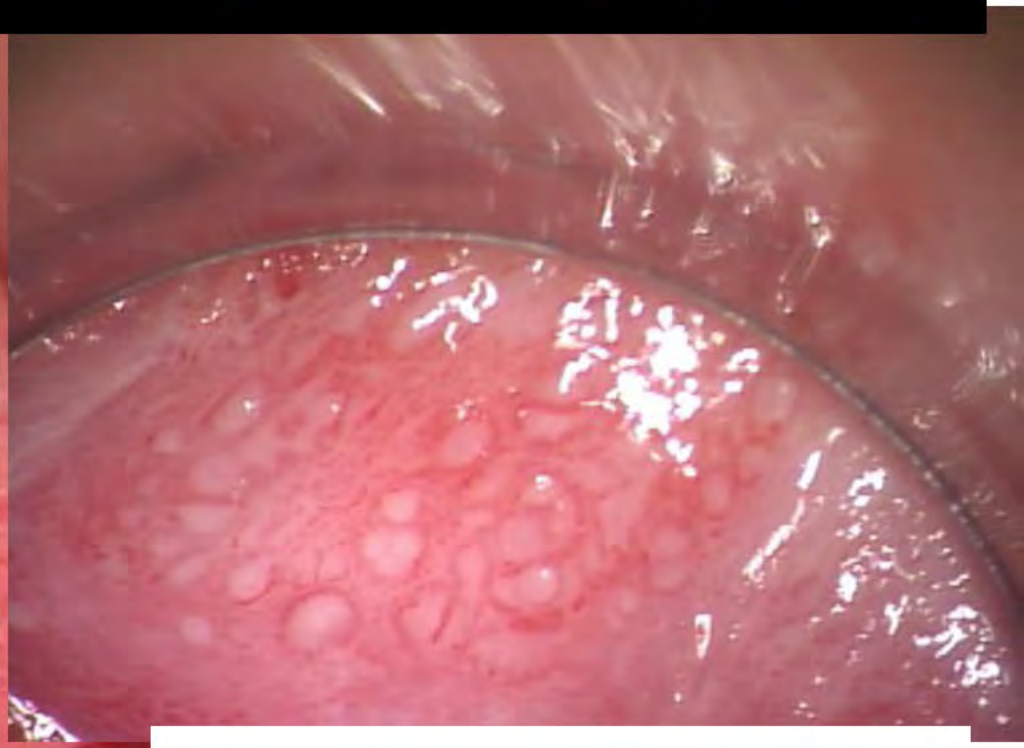
HSIL/AIN 3

HRA Signs of Invasive Cancer

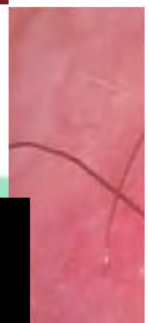
- AWE may or may not be evident due to bleeding.
- Very coarse punctation and mosaic pattern.
- Atypical, non-branching, bizarre patterns, dilated vessels.
- Friable lesions.
- Denuded epithelium, fissures, or ulcerations.
- Coarse mosaic pattern appearing on keratinized mucosa.

Cancers found during HRA



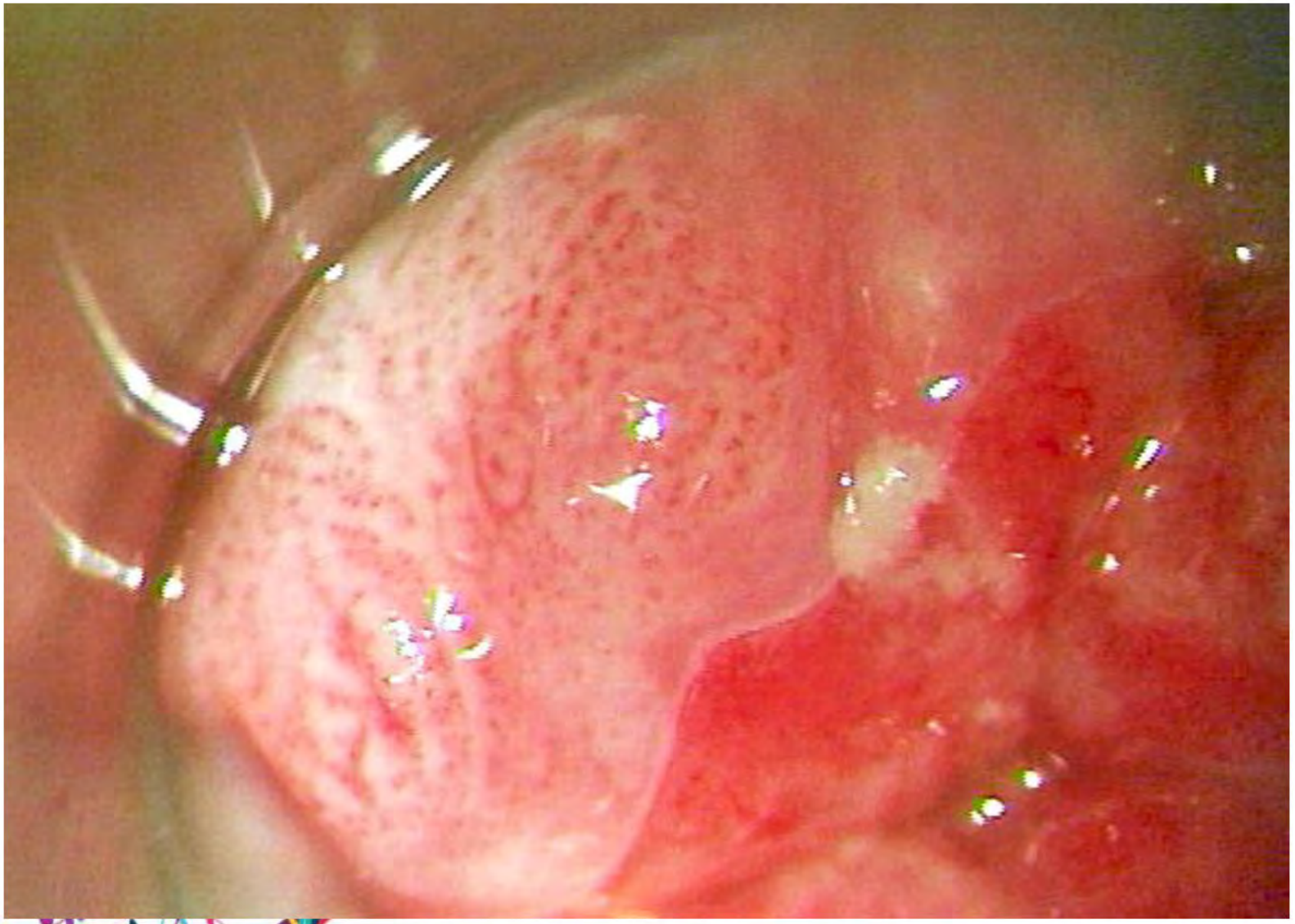


Cancer adjacent to wart



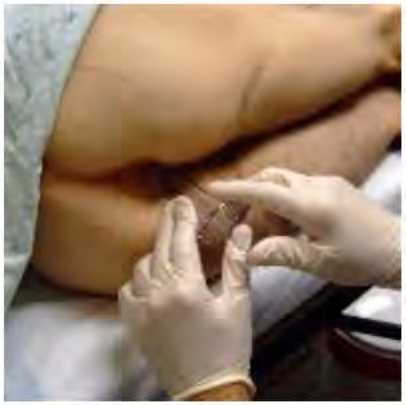
Perianal

Superficially Invasive SCCA Detected by HRA

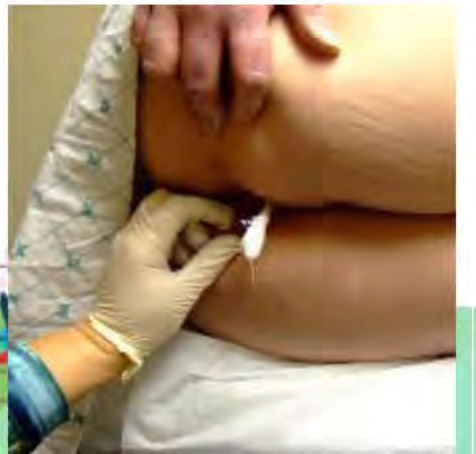


HRA Exam

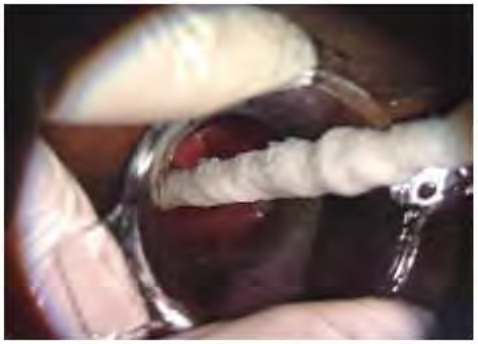
1) Position - lateral or proneanoscope.



2) Remove anoscope leaving Q-tip & gauze inside. Soak for 1-2 minutes.

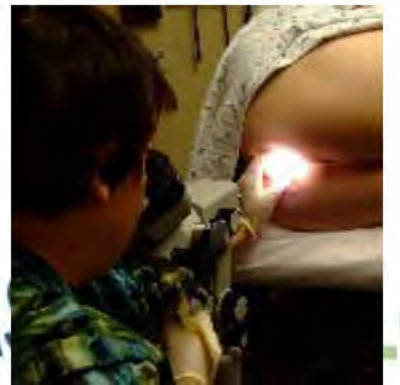


3) Insert Q-tip wrapped in gauze soaked in 5% acetic acid through anoscope.

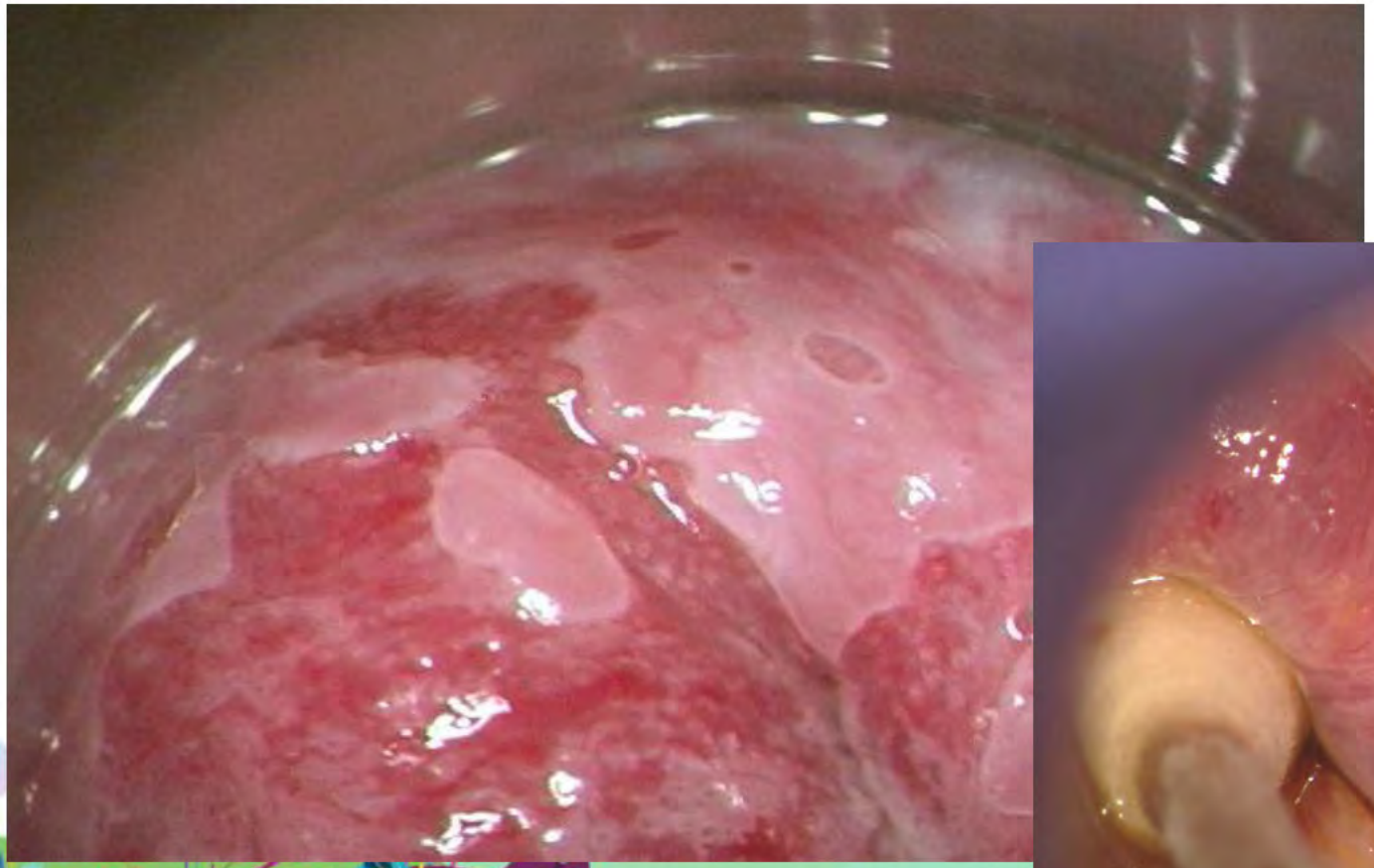


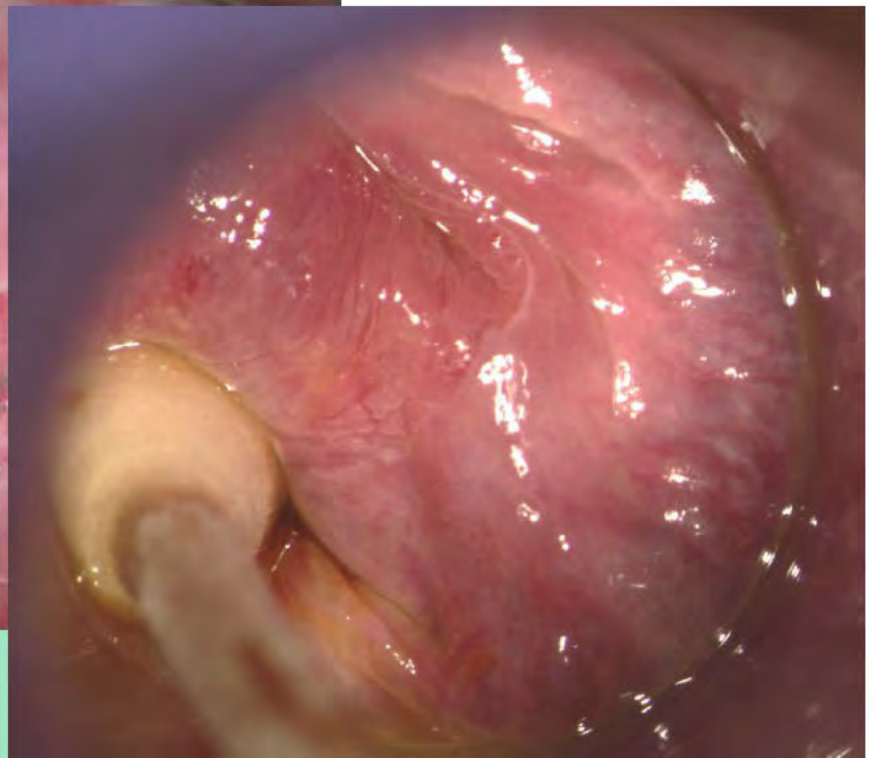
4) Remove gauze and re-insert anoscope.

5) Observe through colposcope slowly withdrawing the anoscope until the SCJ comes into focus.



Systematic Examination





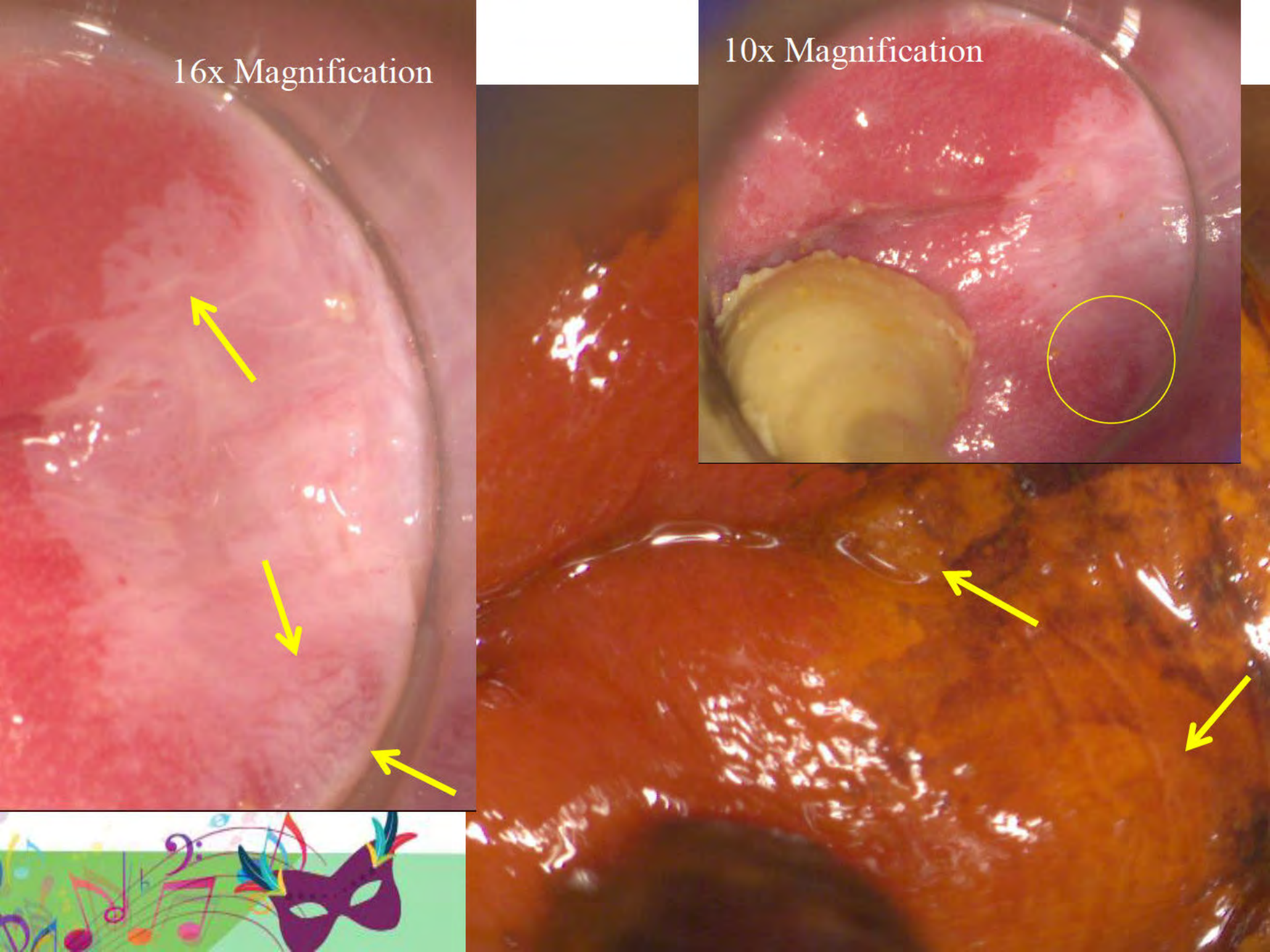
Differences

- Higher magnification compared to cervical.
- Requires liberal application and re-application of acetic acid.
- Adjunctive use of Lugol's staining to highlight acetic acid findings.
- Physically more demanding.
- Requires adequate time ~ 15 minutes for experienced clinician.

Equipment

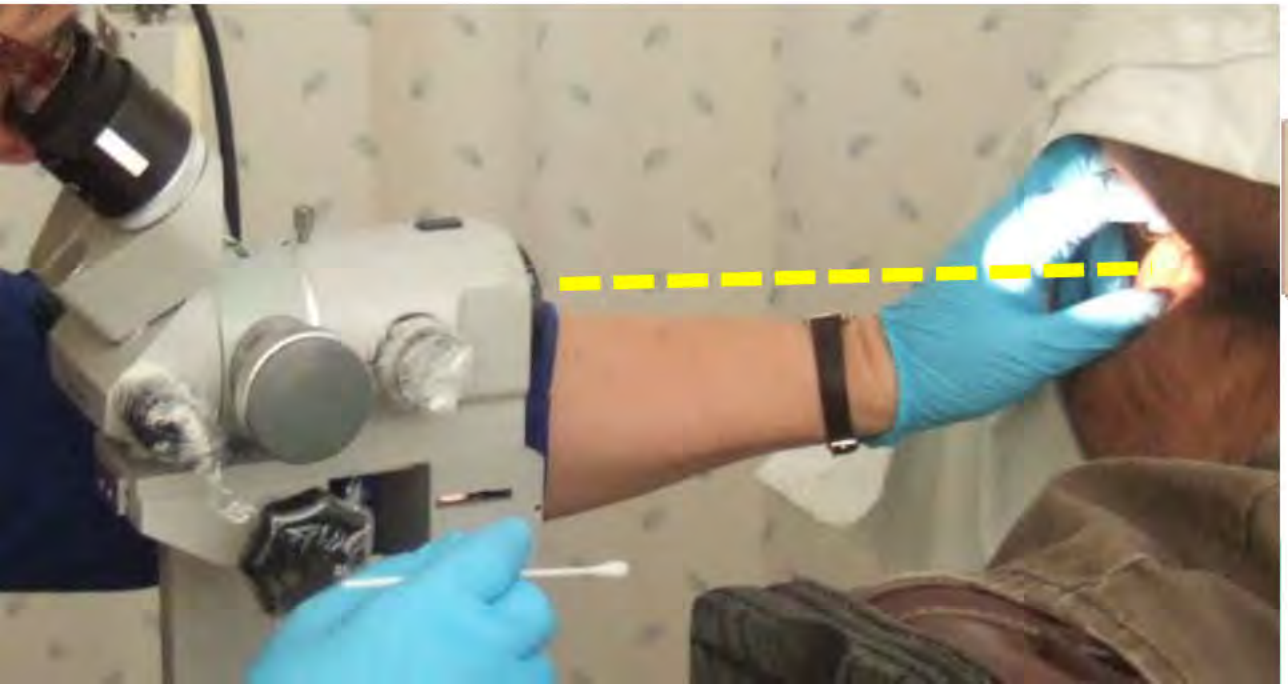
- If you can't see well, you can't find lesions.
- HRA requires higher magnification compared to cervical colposcopy…

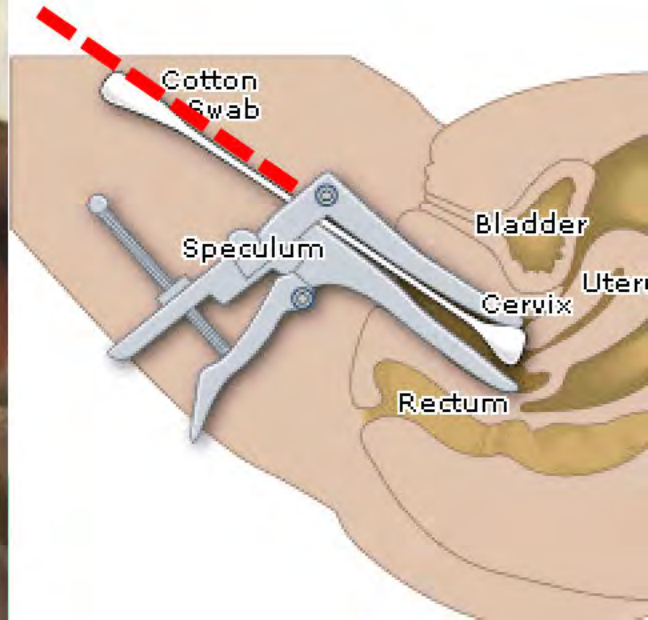
  a***nd it needs to be used.***
- Colposcope with better and higher magnification range.
- **Non-ocular scopes do not work well**


16x Magnification
10x Magnification

Ergonomics

- In left lateral decubitus, anal opening is lower compared to cervix, and view is straight-on.
- Impacts on height of eyepieces and examiner position.
- Helpful to use angled eyepieces





Got HRA?

- Field is relatively young with growing demand for services.
- Discuss with colleagues providing HRA.
- Rewarding, challenging – sometimes a difficult transition.
- With practice, expertise is certainly possible.
- Consider taking the HRA Course – July 2016 in Providence!


My butt hurts
What?