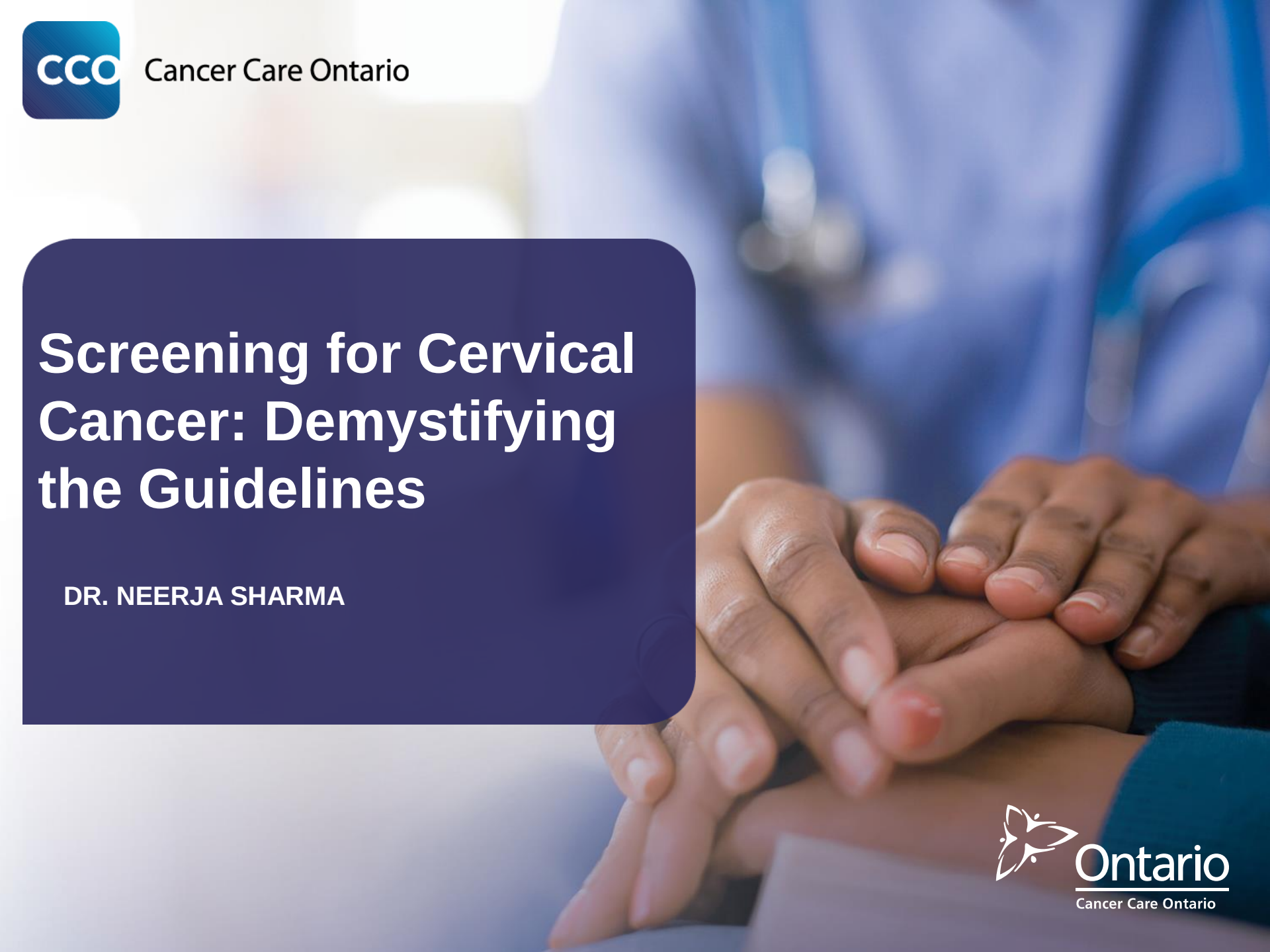
Cancer Care Ontario

Screening for Cervical Cancer: Demystifying the Guidelines

DR. NEERJA SHARMA



Ontario
Cancer Care Ontario

Cancer Care Ontario – Cervical Cancer Screening Goals

Increase patient participation in cervical screening

Increase primary care provider performance in screening

Maintain a high-quality, cervical screening program

Future Goal - Integrate colposcopy into screening program to reduce variation in care and optimize access






Screening Guidelines Summary

Screening

Begin at age 21 **if** are or have ever been sexually active

Initiation

If normal result, every 3 years.

If abnormal, follow-up abnormal guidelines

Cessation

Discontinue screening at age 70 if normal results in previous 10 years (3 or more negative tests)

- CCO is working with the MOHLTC to implement HPV testing as part of OCSP

Challenges: Screening Interval

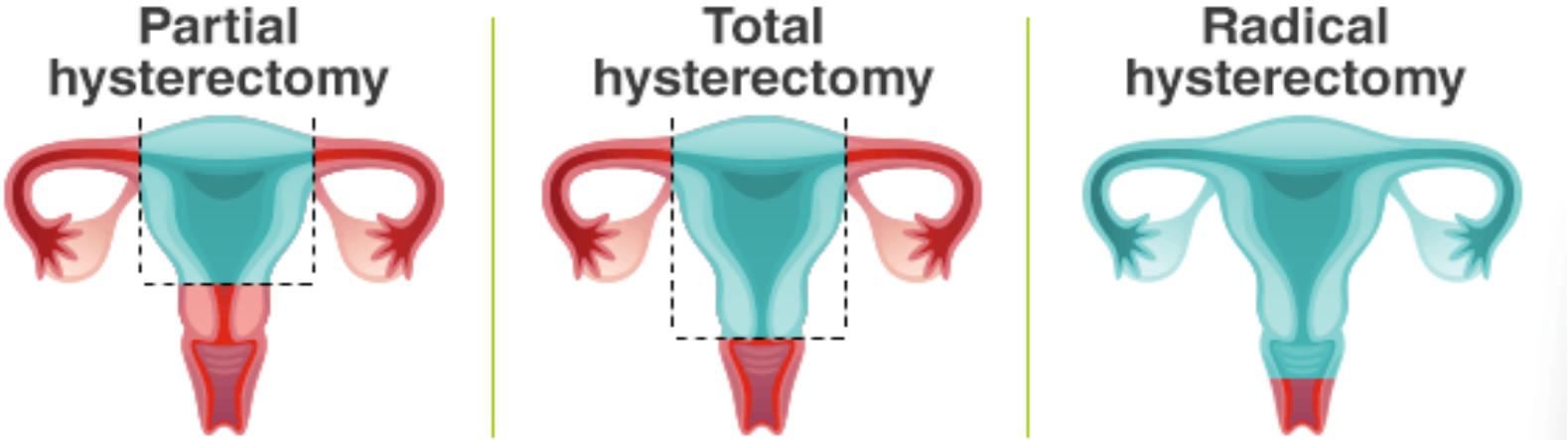
- Cervical cancer screening often linked to periodic health exam, hormonal contraception and bimanual pelvic exam
- Reduction of chlamydia testing for females 15-29
- No incremental benefit of screening more frequently than every 3 years
- Difficult for physicians/providers to track a woman's 3-year screening interval

Special Screening Circumstances

Women who have sex with women	• Follow the same screening regimen as women who have sex with men
Pregnant women	• Pregnancy does not alter the recommended screening interval
Subtotal hysterectomies	• Women who have retained their cervix should continue screening
Immunocompromised women (e.g. HIV-positive)	• Should receive **annual** screening
Transgender men who have retained their cervix	• Should be screened according to guidelines

Exclusions

- Previous history of cervical cancer
- Complete hysterectomies i.e. no cervix
  - Thorough review of personal history required to assess if still eligible for pap testing



Harms of Screening Adolescents

- 90% will clear HPV infection within 2 years
- High rates of low-grade, mostly transient, clinically inconsequential abnormalities
- Unnecessary anxiety from interventions, biopsies and treatment
- Treatment linked to possibility of adverse future pregnancy outcomes

Beyond a Pap Test (Abnormal Results)

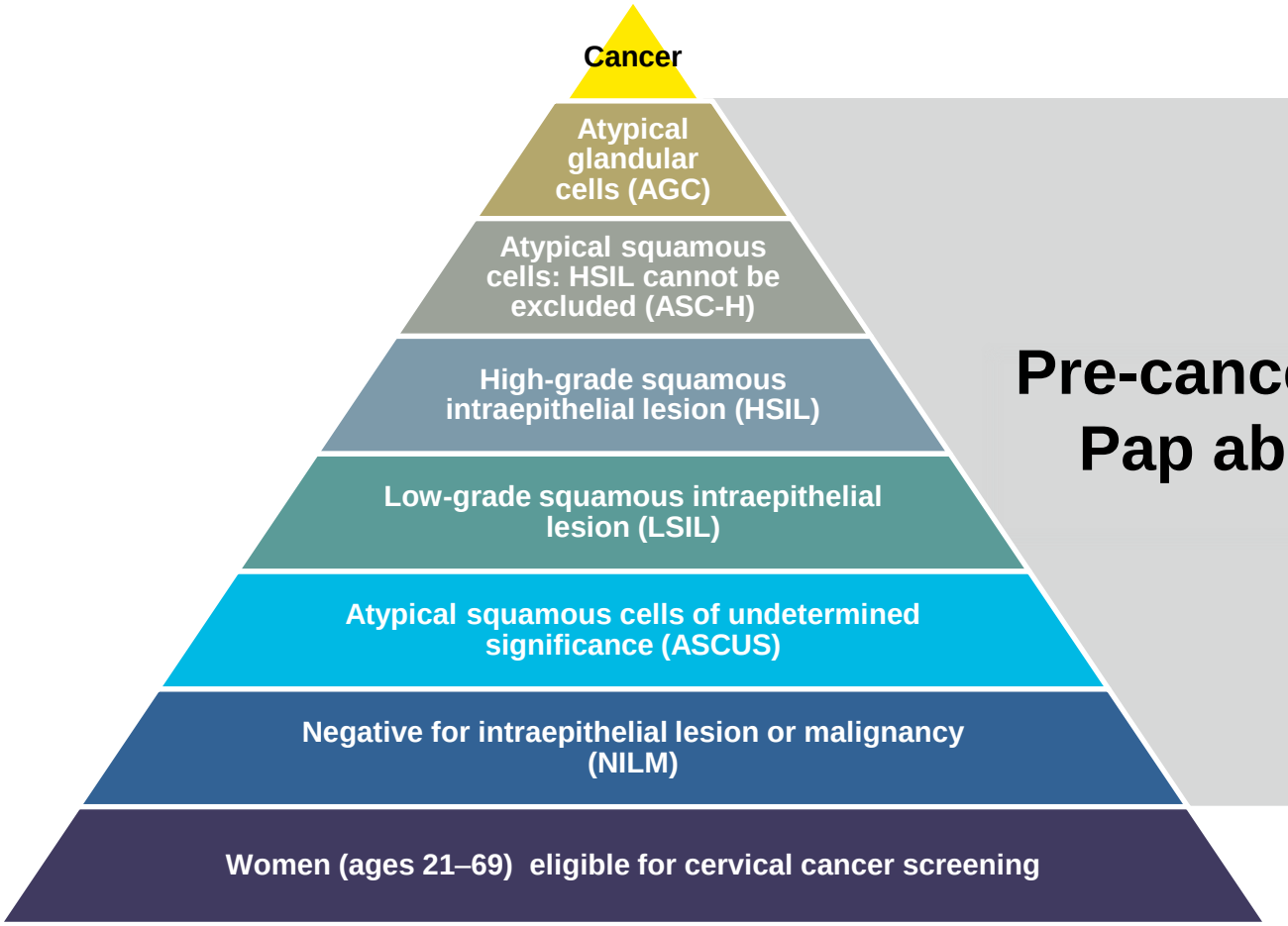
Follow-up of abnormal results is critical to prevention of cervical cancer

Follow up plan depends on the type of abnormality detected in the Pap test. Can include:

- Repeat pap test within a shorter period of time
- HPV testing
- Colposcopy

Ontario Guidelines for follow-up of Abnormal Cytology is found in your package today

Cervical Abnormalities

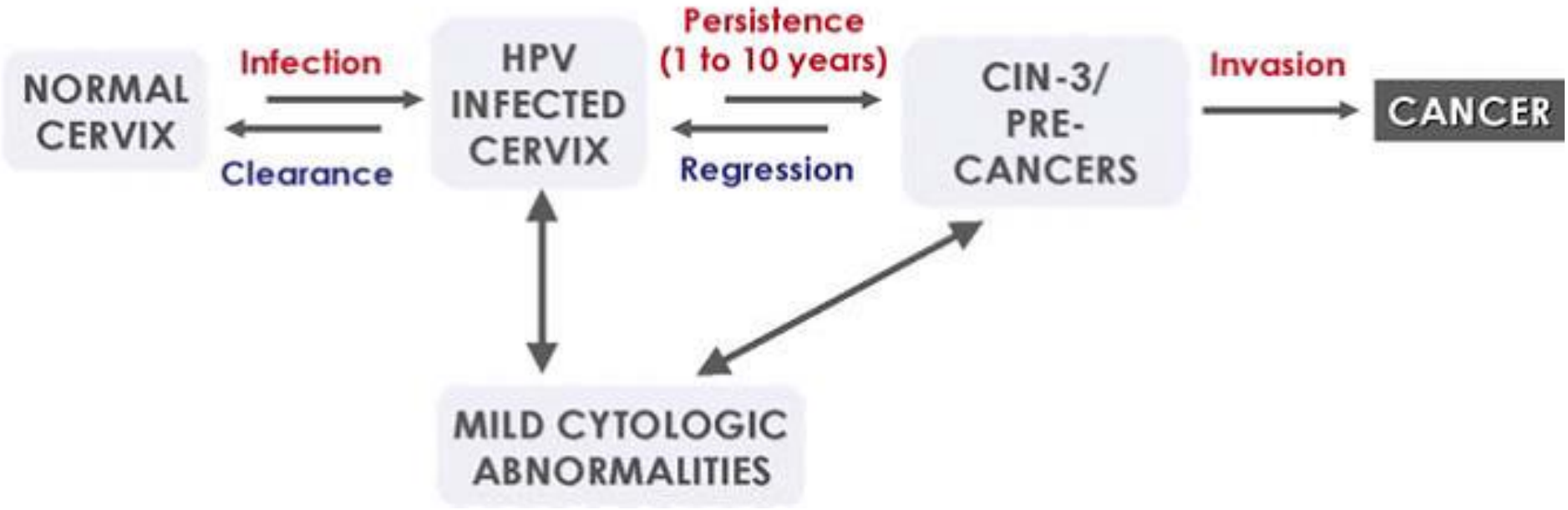


Pre-cancerous lesions/ Pap abnormalities: 5.2%

Cervical Cancer Causes

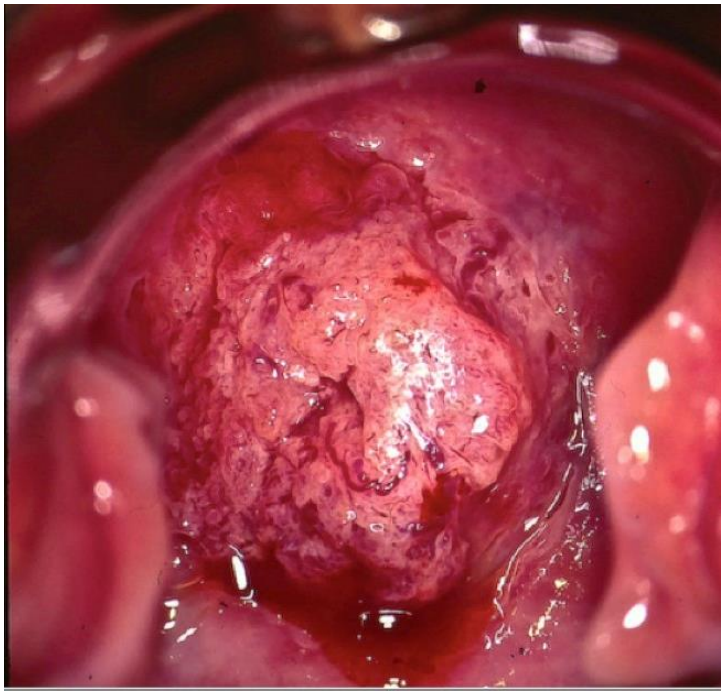
- Persistent infection with high risk (oncogenic) types of human papillomavirus (HPV)
- Most HPV infections transient; ~90% clear within 2 years
- Pap tests detect cervical cell changes that are a result of HPV infections
- Abnormal Pap tests reflect cell changes, which may be pre-malignant
- Other co-factors not well-understood, such as smoking, are also involved in oncogenesis

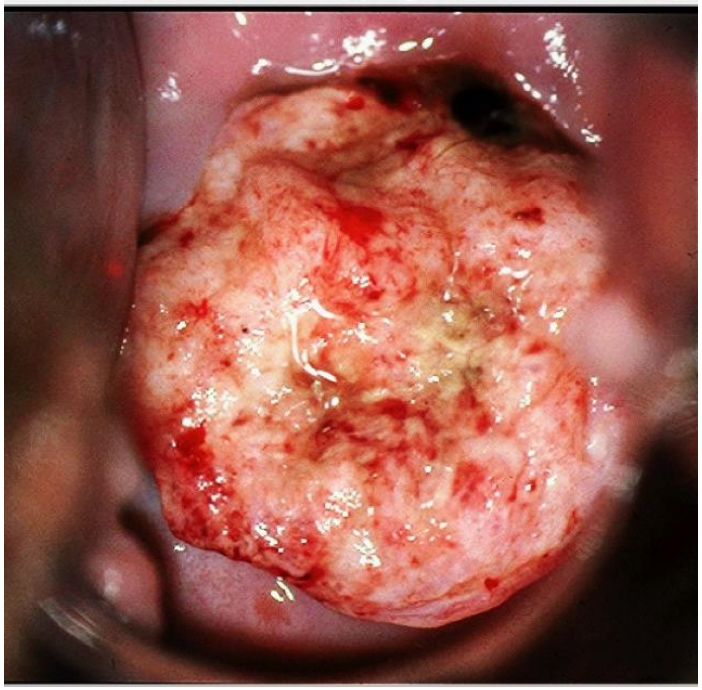
Cervical Cancer Natural History



*Current terminology: HSIL = cervical intraepithelial neoplasia-3

Cervical Cancer





HPV Vaccination & Testing

HPV Vaccine

- 3 vaccines available: bivalent (Cervarix®), quadrivalent (Gardasil®) and nonavalent (Gardasil®9)
- Provides best protection if received prior to HPV exposure
- Natural infection does not reliably result in immunity
- Does not replace regular cervical cancer screening

CCO Evidence-Based Guidelines: HPV Screening

- Clear evidence for primary HPV screening with cytology triage, starting at a later age and longer screening interval
- Must be implemented within organized program
- Must be publicly funded
- Follow cytology-based guidelines during transition to funded HPV screening

HPV Testing

- Women over 30 years with low-grade cytologic abnormalities who test **negative for HPV** can be discharged to primary care for **routine, triennial screening**
- At discharge, treated women of any age or untreated women over 30 years with low-grade cytologic abnormalities who test:
  - **Negative for HPV** can be discharged to primary care for **routine, triennial screening**
  - **Positive for HPV** can be discharged to primary care for **annual screening/surveillance**

HPV Testing Continued…

- Women treated after an AGC/AIS referral should be followed in colposcopy for a **five year period**.
    - If **all tests are negative** during 5 year follow-up, **screen annually** in colposcopy or primary care.

- These changes will have an impact on family physicians with regards to:
    - Management of women post-discharge from colposcopy.
    - Recommended screening frequency.

Comparison of Pathways with HPV Testing vs. without HPV Testing

*Discharge from Colposcopy to Primary Care, **Untreated Women** ≥ 30 Years of Age, SIL Referral*

	HPV Available			HPV Not Available	
Entry Criteria	**Referral cytology: ASCUS, LSIL, HSIL or ASC-H**	**At initial colposcopy:** • **cyto or histo ≤ LSIL and** • **HPV positive**		**At initial colposcopy:** • **cyto or histo ≤ LSIL**	
Colposcopy Visit #	**1 (initial)**	**1 (follow-up)**		**1 (initial) + 2 (follow-up)**	
Exit Criteria	• **cyto** or **histo ≤ LSIL**; and • **HPV negative**	• **cyto** or **histo ≤ LSIL**; and • **HPV negative**	• **colpo negative** • **cyto < LSIL**; and • **HPV positive**	• **colpo negative**; and • **cyto normal** for all **3 visits**	• **colpo negative**; and • **cyto ≤ LSIL** for all **3 visits***
Screening Frequency Post-Colposcopy	**Triennial**	**Triennial**	**Annual**	**Triennial**	**Annual**

* Excluding 3 consecutive cyto normal

5-Year Risk of CIN 3

	Pap Normal	ASCUS	LSIL
No HPV Test	**0.26%**	**2.6%**	**5.2%**
HPV Negative	**0.08%**	**0.43%**	**2.0%**
HPV Positive	**4.5%**	**6.8%**	**6.1%**

Katki HA, Schiffman M, Castle PE, et al. Benchmarking CIN3+ risk as the basis for incorporating HPV and Pap cotesting into cervical screening and management guidelines. *Journal of lower genital tract disease*. 2013;17(5 0 1):S28-S35. doi:10.1097/LGT.0b013e318285423c.

Rationale

- High negative predictive value of negative HPV test
- High rate of regression of CIN 1
- Progression to cancer within 2-3 years less than 1%

Integration of Colposcopy with Primary Care

Current State for Colposcopy

- Colposcopy services in Ontario are **currently not organized** or **integrated**
- Care is fragmented with **lack of integration** between colposcopists and primary care, considerable **variation in practice**, and **overuse of services**
  - Due to limitations to our current screen test, women are referred to colposcopy when they could be managed in primary care

In women over 30 years of age, approximately 69% borderline abnormalities and 27% of low-grade abnormalities are caused by non-oncogenic HPV and do not require referral to colposcopy

Current State… Continued

- Unnecessary referrals
- Child bearing may be unnecessarily compromised among low-risk women (i.e., younger women)
- **Criteria for discharge to primary care is not standardized and often result in delayed discharge for women who may be at low-risk**
- **Primary care providers are not accustomed to managing women with low-grade cytologic abnormalities**

Challenges: Colposcopy

- Over-referral of young women with low-grade abnormalities
- Possible over-treatment of women under 30 for low-grade abnormalities
- Return to routine screening and primary care

Opportunities: Organize Colposcopy

Organizing and integrating colposcopy services with a cervical screening data collection plan to support performance management and reporting by:

- Streamlining the referral process
- Reducing unnecessary practice variation
- Ensuring consistent, timely access to high quality care
- **Disseminating and implementing the newly released clinical guidance on discharge from colposcopy and ongoing follow-up**

Future State for Colposcopy Referrals

- Appropriate referrals of women to colposcopy, based on **risk**
- Monitoring untreated women at appropriate intervals, with subsequent discharge follow-up
- HPV test of cure post-treatment for dysplasia will enable women to be safely exited to screening
- Women are returned to primary care with **risk-based** recommendations for screening or surveillance

Exit Criteria from Colposcopy to PCP

DECLINED REFERRAL FORM
NOTICE: COLPOSCOPY NOT REQUIRED

Colposcopist name:

Contact information:

Date:

Patient identifier:

Based on this woman's referral cytology and/or HPV test result, she is at low risk for high-grade dysplasia or cervical cancer.

It does not appear that she requires a colposcopic assessment. Colposcopy has not been scheduled. If this referral has been based on additional information, please advise and we will re-evaluate.

Any visible cervical abnormalities or abnormal symptoms must be investigated by a specialist (e.g., colposcopist, gyne-oncologist, gynecologist) regardless of cytology findings.

As per the Ontario Cervical Screening Program's cervical screening guidelines, the criteria for referral to colposcopy for screening detected cervical cytologic abnormalities are as follows:

Age group	Screening Results
Women of any age	High-grade abnormal cytology, including ASC-H, HSIL, AGC or greater
Women age 30 and older	Low-grade cytology: • One LSIL; • ASCUS + consecutive low-grade abnormal (ASCUS + ASCUS or ASCUS + LSIL); • LSIL + consecutive low-grade abnormal (LSIL + LSIL or LSIL + ASCUS); • One ASCUS + HPV-positive; or • One LSIL + HPV-positive.
Women age 29 and younger	Low-grade cytology: • One LSIL; • ASCUS + consecutive low-grade abnormal (ASCUS + ASCUS or ASCUS + LSIL); or • LSIL + consecutive low-grade abnormal (LSIL + LSIL or LSIL + ASCUS). Note: current evidence does not support HPV testing for women under 30 because the rate of transient (clinical inconsequential) infections is higher younger women.[1]

AGC = atypical glandular cells
ASC-H = atypical squamous cells – cannot exclude HSIL
ASCUS = atypical squamous cells of undetermined significance
HPV = human papillomavirus
HSIL = high-grade squamous intraepithelial lesion
LSIL = low-grade squamous intraepithelial lesion

Women over 30 with LSIL or ASCUS Pap, who are HPV negative, do not require colposcopy and should be screened triennially. These women are at or below population risk for high-grade dysplasia or cervical cancer.

For further information on screening and colposcopy recommendations for Ontario see cancercare.on.ca/pcc/screening/cervscreening/hcpresources.

, MD, Colposcopist

[1] Murphy J, Kennedy E, Dunn S, Fung Kee Fung M, Gzik D, McLachlin CM, et al. Cervical Screening. Toronto (ON): Cancer Care Ontario; 2011 Oct 5 [In Review 2016 Apr.] Program in Evidence-based Care Evidence-based Series No.: 15-9 IN REVIEW. Available online: [illegible]
Version 1.0
Date Released: February 3, 2017
Available Online: cancercare.on.ca/pcc/screening/cervscreening/hcpresources

FINAL DISCHARGE RECOMMENDATIONS
COLPOSCOPY SERVICES

Colposcopist name:

Contact information:

Date:

Patient identifier:

This patient is now discharged from colposcopy. She requires Pap screening by a primary care provider:

- ☐ Every three years (routine cervical screening)
- ☐ Every year (surveillance)

Re-referral to colposcopy in the future should be guided by her screening results.

According to the Ontario Cervical Screening Program's recommendations, whether or not a woman has been treated, further colposcopic examinations are not required and she can be discharged to primary care if:

HPV testing was not done	HPV testing was done
☐ Colposcopy negative AND negative cytology on 3 consecutive visits. Pap screening every 3 years by a primary care provider. *These patients are at very low risk for high-grade dysplasia or cervical cancer.*	☐ HPV test is negative AND normal or low-grade cytology. Pap screening every 3 years by a primary care provider. *These patients are at very low risk for high-grade dysplasia or cervical cancer.*
☐ Colposcopy negative AND any combination of normal or low-grade cytology on 3 consecutive visits. Pap screening every year by a primary care provider. *These patients are at slightly elevated risk for high-grade dysplasia or cervical cancer and should be screened annually.*	☐ HPV test is positive AND normal or low-grade cytology. Pap screening every year by a primary care provider. *These patients are at slightly elevated risk for high-grade dysplasia or cervical cancer and should be screened annually.*

For further information on screening and colposcopy recommendations for Ontario see cancercare.on.ca/pcc/screening/cervscreening/hcpresources.

, MD, Colposcopist

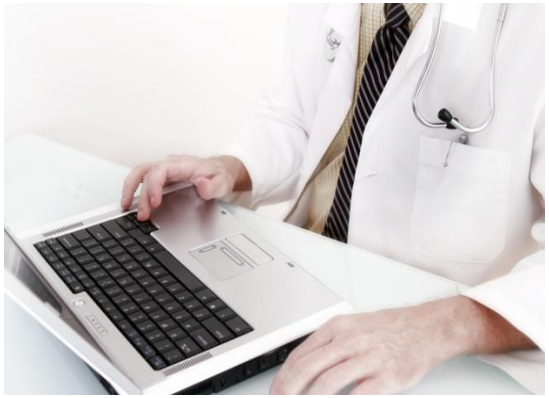
Version 1.0
Date Released: February 3, 2017
Available Online: cancercare.on.ca/pcc/screening/cervscreening/hcpresources

Clinical Case Studies & Resources

Clinical Case Study 1

- A 35-year-old woman had an ASCUS result on her recent Pap test

What is the appropriate next step?



Clinical Case Study 2

- A 21-year-old woman had an ASCUS result on her recent Pap test

What is the appropriate next step?

Clinical Case Study 3

A woman age 25+ seen in colposcopy,referred with ASCUS x 2. The Colposcopy and biopsy confirm LSIL, HPV negative.

What is the Final Discharge Recommendation from the Colposcopist?

HPV testing was **not** done	HPV testing was done
☐ Colposcopy negative AND negative cytology on 3 consecutive visits. Pap screening every 3 years by a primary care provider. *These patients are at very **low risk** for high-grade dysplasia or cervical cancer.*	☒ HPV test is negative AND normal or low-grade cytology. Pap screening every 3 years by a primary care provider. *These patients are at very **low risk** for high-grade dysplasia or cervical cancer.*
☐ Colposcopy negative AND any combination of normal or low-grade cytology on 3 consecutive visits. Pap screening every year by a primary care provider. *These patients are at **slightly elevated risk** for high-grade dysplasia or cervical cancer and should be **screened annually**.*	☐ HPV test is positive AND normal or low-grade cytology. Pap screening every year by a primary care provider. *These patients are at **slightly elevated risk** for high-grade dysplasia or cervical cancer and should be **screened annually**.*

Clinical Case Study 4

A woman age 25+ seen in colposcopy, referred with ASCUS x 2.
The Colposcopy and biopsy confirm LSIL, **HPV is positive.**

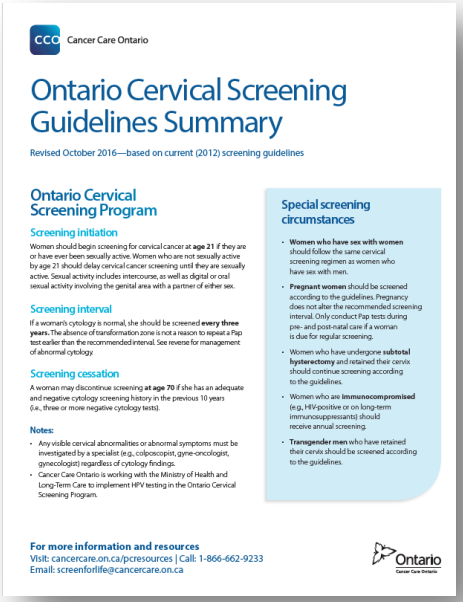
What is the Final Discharge Recommendation from the colposcopist?

HPV testing was **not** done	HPV testing was done
☐ Colposcopy negative AND negative cytology on 3 consecutive visits. Pap screening every 3 years by a primary care provider. *These patients are at very **low risk** for high-grade dysplasia or cervical cancer.*	☐ HPV test is negative AND normal or low-grade cytology. Pap screening every 3 years by a primary care provider. *These patients are at very **low risk** for high-grade dysplasia or cervical cancer.*
☐ Colposcopy negative AND any combination of normal or low-grade cytology on 3 consecutive visits. Pap screening every year by a primary care provider. *These patients are at **slightly elevated risk** for high-grade dysplasia or cervical cancer and should be **screened annually**.*	☒ HPV test is positive AND normal or low-grade cytology. Pap screening every year by a primary care provider. *These patients are at **slightly elevated risk** for high-grade dysplasia or cervical cancer and should be **screened annually**.*

OCSP Resources and Tools

For more information:

cancercare.on.ca/pcresources



Cancer Care Ontario

Ontario Cervical Screening Guidelines Summary

Revised October 2016—based on current (2012) screening guidelines

Ontario Cervical Screening Program

Screening initiation

Women should begin screening for cervical cancer at **age 21** if they are or have ever been sexually active. Women who are not sexually active by age 21 should delay cervical cancer screening until they are sexually active. Sexual activity includes intercourse, as well as digital or oral sexual activity involving the genital area with a partner of either sex.

Screening interval

If a woman's cytology is normal, she should be screened **every three years.** The absence of transformation zone is not a reason to repeat a Pap test earlier than the recommended interval. See reverse for management of abnormal cytology.

Screening cessation

A woman may discontinue screening **at age 70** if she has an adequate and negative cytology screening history in the previous 10 years (i.e., three or more negative cytology tests).

Notes:

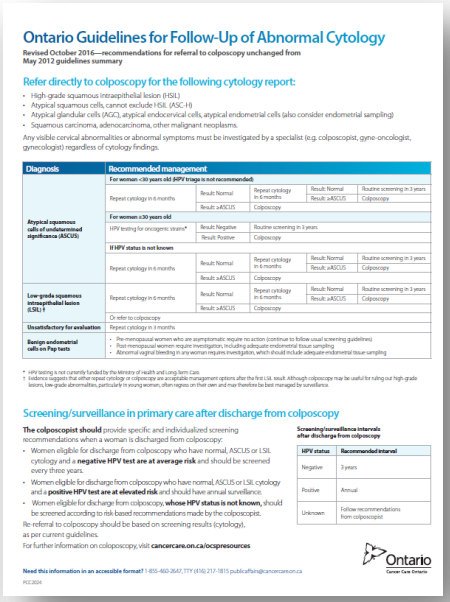
- Any visible cervical abnormalities or abnormal symptoms must be investigated by a specialist (e.g., colposcopist, gyne-oncologist, gynecologist) regardless of cytology findings.
- Cancer Care Ontario is working with the Ministry of Health and Long-Term Care to implement HPV testing in the Ontario Cervical Screening Program.

Special screening circumstances

- **Women who have sex with women** should follow the same cervical screening regimen as women who have sex with men.
- **Pregnant women** should be screened according to the guidelines. Pregnancy does not alter the recommended screening interval. Only conduct Pap tests during pre- and post-natal care if a woman is due for regular screening.
- Women who have undergone **subtotal hysterectomy** and retained their cervix should continue screening according to the guidelines.
- Women who are **immunocompromised** (e.g., HIV-positive or on long-term immunosuppressants) should receive annual screening.
- **Transgender men** who have retained their cervix should be screened according to the guidelines.

For more information and resources
Visit: cancercare.on.ca/pcresources | Call: 1-866-662-9233
Email: screenforlife@cancercare.on.ca

Ontario



Ontario Guidelines for Follow-Up of Abnormal Cytology

Revised October 2016—recommendations for referral to colposcopy unchanged from May 2012 guidelines summary

Refer directly to colposcopy for the following cytology report:

- High-grade squamous intraepithelial lesion (HSIL)
- Atypical squamous cells, cannot exclude HSIL (ASC-H)
- Atypical glandular cells (AGC), atypical endocervical cells, atypical endometrial cells (also consider endometrial sampling)
- Squamous carcinoma, adenocarcinoma, other malignant neoplasms.

Any visible cervical abnormalities or abnormal symptoms must be investigated by a specialist (e.g. colposcopist, gyne-oncologist, gynecologist) regardless of cytology findings.

Diagnosis	Recommended management				
Atypical squamous cells of undetermined significance (ASCUS)	**For women <30 years old (HPV triage is not recommended)**				
	Repeat cytology in 6 months	Result: Normal	Repeat cytology in 6 months	Result: Normal	Routine screening in 3 years
		Result: ≥ASCUS	Colposcopy	Result: ≥ASCUS	Colposcopy
	For women ≥30 years old				
	HPV testing for oncogenic strains*	Result: Negative	Routine screening in 3 years		
		Result: Positive	Colposcopy		
	If HPV status is not known				
	Repeat cytology in 6 months	Result: Normal	Repeat cytology in 6 months	Result: Normal	Routine screening in 3 years
		Result: ≥ASCUS	Colposcopy	Result: ≥ASCUS	Colposcopy
Low-grade squamous intraepithelial lesion (LSIL)†	Repeat cytology in 6 months	Result: Normal	Repeat cytology in 6 months	Result: Normal	Routine screening in 3 years
		Result: ≥ASCUS	Colposcopy	Result: ≥ASCUS	Colposcopy
	Or refer to colposcopy				
Unsatisfactory for evaluation	Repeat cytology in 3 months				
Benign endometrial cells on Pap tests	• Pre-menopausal women who are asymptomatic require no action (continue to follow usual screening guidelines) • Post-menopausal women require investigation, including adequate endometrial tissue sampling • Abnormal vaginal bleeding in any woman requires investigation, which should include adequate endometrial tissue sampling				

* HPV testing is not currently funded by the Ministry of Health and Long-Term Care.
† Evidence suggests that either repeat cytology or colposcopy are acceptable management options after the first LSIL result. Although colposcopy may be useful for ruling out high-grade lesions, low-grade abnormalities, particularly in young women, often regress on their own and may therefore be best managed by surveillance.

Screening/surveillance in primary care after discharge from colposcopy

The colposcopist should provide specific and individualized screening recommendations when a woman is discharged from colposcopy:

- Women eligible for discharge from colposcopy who have normal, ASCUS or LSIL cytology and a **negative HPV test are at average risk** and should be screened every three years.
- Women eligible for discharge from colposcopy who have normal, ASCUS or LSIL cytology and a **positive HPV test are at elevated risk** and should have annual surveillance.
- Women eligible for discharge from colposcopy, **whose HPV status is not known,** should be screened according to risk-based recommendations made by the colposcopist.

Re-referral to colposcopy should be based on screening results (cytology), as per current guidelines.

For further information on colposcopy, visit **cancercare.on.ca/ocipresources**

Screening/surveillance intervals after discharge from colposcopy

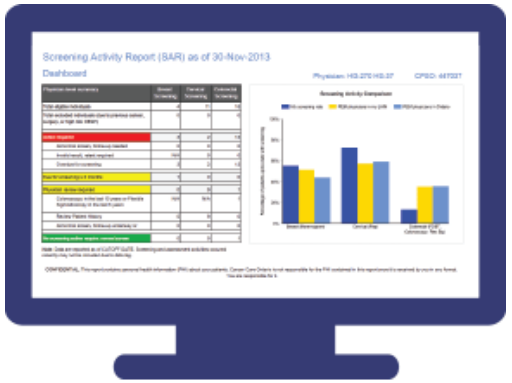
HPV status	Recommended interval
Negative	3 years
Positive	Annual
Unknown	Follow recommendations from colposcopist

Need this information in an accessible format? 1-855-460-2647, TTY (416) 217-1815 publicaffairs@cancercare.on.ca

PCC3024

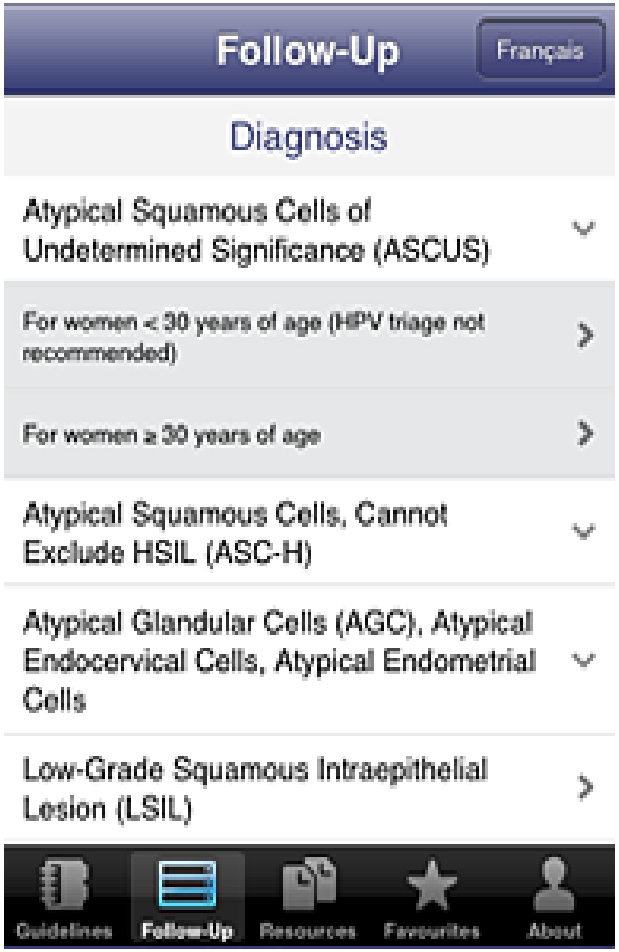
Ontario

SAR Screening Activity Report



What's New…..

Cancer Screening Guidelines – Mobile App



Healthcare Provider Information

- Specific abnormal follow-up recommendations

Questions & Discussion