Information for Healthcare Providers on the Ontario Cervical Screening Program (OCSP)

For more information:
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Launched in 2000, the Ontario Cervical Screening Program (OCSP) is a province-wide screening program with the goal of reducing cervical cancer incidence and mortality. The program is designed to increase the number of women who have regular screening in order to diagnose the precursors of cervical cancer early and prevent this disease from developing.

In 2012, the OCSP released updated cervical screening cytology guidelines. In the future, the OCSP will use a population-based registry to send test result letters to women in Ontario, who have had a screening test or are due for their next screening, and will send invitation letters to women who have not been screened for cervical cancer in the prior three years. These letters will serve as reminders and encourage these women to talk to their healthcare providers about cervical cancer screening.

The guidelines recommend cytology testing starting at age 21 repeated every three years for women who are or have ever been sexually active. Screening may be discontinued at the age of 70 if there is an adequate normal cytology screening history in the previous 10 years (i.e., three or more normal cytology tests).

A series of consecutive normal annual Pap tests prior to initiating a three-year screening interval is no longer recommended.

“Sexually active” includes intercourse, as well as digital or oral sexual activity involving the genital area with a partner of either sex.

What is the evidence for the current changes to the recommendations?

Age of screening initiation

- Cytology testing should begin at age 21 for women who are or have ever been sexually active. The harms of screening women under 21 years of age significantly outweigh the benefits.
- Cervical cancer is rare in women less than age 21. From 2003 to 2007, there were on average fewer than 10 cases in a five-year period in women aged 15 to 19 across the entire province. No deaths from cervical cancer occurred in this age group for the same time period.\(^1\) Evidence suggests that these cancers would not have been detected by screening.\(^2\)
- Early changes in the cervix precede cervical cancer, usually by many years, and can generally be detected by the Pap test long before invasive cancer develops.\(^3\)
- Young women have high rates of low-grade cytological abnormalities that are, in most cases, transient human papillomavirus (HPV) infections,\(^4\)\(^,\)\(^5\) many of which are non-oncogenic. Approximately 90 percent of young women will clear an HPV infection within 24 months without consequence to their cervical health.\(^6\)
- Treating young women with cervical dysplasia is linked to a small but significant risk of adverse future pregnancy outcomes (e.g., preterm delivery or low birth weight).\(^7\),\(^8\),\(^9\),\(^10\) Research demonstrates that very few low-grade cervical intraepithelial neoplasia in women in their early 20s would progress to cancer within five years if left untreated.\(^11\)
- For the above reasons, many Canadian jurisdictions and professional organizations have increased the recommended screening initiation age to 21 in their screening guidelines.\(^12\)

Screening interval

- A cohort study published in 2005 did not find a benefit with annual screening.\(^13\) This corroborates evidence that showed that the excess cervical cancer risk when screening every three years compared to annually was approximately three in 100,000.\(^14\)
- To support healthcare providers in following this recommendation, the OCSP will be implementing in the future automatic recalls for women at three-year intervals using a population-based registry.
The recommendations for follow-up of abnormal cytology have not changed (refer to 2012 Ontario Cervical Screening Cytology Guidelines Summary: www.cancercare.on.ca/screenforlife).

- Women who are immunocompromised should receive annual cervical cytology screening (e.g., women who are currently taking long-term immunosuppressants or those who are HIV-positive).
- Screening may be discontinued at the age of 70 if there is adequate negative screening history in the previous 10 years (i.e., three or more negative tests).
- Incidence of cervical cancer is low in older women who have been adequately screened.\(^{15,16}\)

Women who have undergone a total hysterectomy for benign causes and who have no history of cervical dysplasia or HPV infection.

Women who have undergone a subtotal hysterectomy and retained their cervix should continue screening according to the guidelines.

Women who have sex with women should follow the same screening regimen as women who have sex with men.

Pregnant women should be screened according to the guidelines; however, care should be taken not to over-screen. Only conduct Pap tests during pre-natal and post-natal visits if the woman is otherwise due for screening.

In the future, all Patient Enrolment Model physicians will have the opportunity to receive their patients’ screening information through the Screening Activity Report (SAR). The SAR will provide information on the screening status of enrolled patients; identify patients requiring follow-up and present screening rates in comparison to peers.

The OCSP is working with the Ministry of Health and Long-Term Care (MOHLTC) to align the guidelines with physician incentives. In addition, the ministry recently introduced changes to the Schedule of Benefits, including new and revised codes. These changes largely align with Cancer Care Ontario’s guidelines for cervical cancer screening.

After establishing a population-based registry and information system, the OCSP will track all women who have abnormal and unsatisfactory Pap test results to encourage the highest possible rate of appropriate follow-up.

The OCSP will monitor screening outcomes and evaluate opportunities for program improvement. It will achieve and maintain high-quality assurance standards for all components of the program.

The necessary cause of virtually all cervical cancers and their precursors is persistent infection with high-risk (oncogenic) HPV types, especially types 16 and 18.\(^{17,18,19}\) Other co-factors, that are not well understood, are also involved.\(^2\) HPV is a common infection among sexually active males and females.

**Risk factors for acquiring HPV infection include:**\(^{20}\)
- High number of intimate partners
- Early age of first sexual activity
- Acquiring a new sexual partner
- Male sexual partners with a higher lifetime number of partners

**Co-factors that have been associated with cervical cancer include:**\(^{21}\)
- Smoking tobacco and exposure to second-hand smoke
- Long-term (more than five years) use of hormonal contraceptives
- More than five full-term pregnancies
- Other sexually transmitted infections, i.e., *Chlamydia trachomatis* or herpes simplex virus type 2 (HSV-2)
- Poor diet (especially low antioxidant intake)
- Immunosuppression, e.g., HIV, organ transplant, immunosuppressive drug therapy or chemotherapy
What are the benefits of screening women for cervical cancer?

- Early changes in the cells of the cervix precede cervical cancer, usually by many years, and can generally be detected by the Pap test long before invasive cancer develops.³
- Long-term declines in cervical cancer incidence and mortality in Ontario are related to regular screening. Other jurisdictions where cervical screening is available (including Japan, Australia, New Zealand and the developed countries of Europe and North America) have also experienced a marked reduction in cervical cancer incidence and mortality in the past five decades.²², ²³
- Cervical cancer incidence has declined by as much as 80 percent where the cytology screening quality, coverage and follow-up of women are high.³
- Between 1981 and 2009, incidence rates for cervical cancer in Ontario declined by 38 percent and mortality rates declined by 59 percent.²⁴

What are the potential harms of screening women for cervical cancer?

- False-positives
  Women with abnormal screening results experience increased anxiety and fear. Diagnostic interventions need to be undertaken to determine whether or not a woman has cervical cancer. Only a fraction of those with abnormal results will actually have the disease. False-positive results need to be minimized to reduce patient anxiety and morbidity.³

- False-negatives
  Women with a negative screening test result may mistakenly believe that they have no risk for cancer, which may cause them to ignore symptoms and not have them investigated. False-negative Pap test results also occur.²⁵ Moreover, Pap testing is less effective in detecting pre-invasive glandular lesions of the cervix than squamous cell carcinoma, and has had limited impact in preventing adenocarcinoma.²⁵

- Over-diagnosis
  Over-diagnosis of pre-cancerous lesions that may not progress to cancer may occur. Treatment of lesions not destined to become cancer is a potential harm.¹³

- Overtreatment
  Treating young women with cervical dysplasia is linked to a small but significant risk of adverse future pregnancy outcomes (e.g., preterm delivery or low birth weight).⁷, ⁸, ⁹, ¹⁰ Research demonstrates that very few low-grade cervical intraepithelial neoplasia in women in their early 20s would progress to cancer within five years if left untreated.¹¹

What is the status of HPV testing as a primary screening test for cervical cancer?

Cancer Care Ontario’s screening guidelines recommend that Ontario transition to primary HPV screening. Cancer Care Ontario is actively working with the MOHLTC to implement the HPV test as a primary tool for cervical cancer screening.

In the meantime, HPV testing should only be considered as a triage following an atypical squamous cells of undetermined significance (ASCUS) cytology result for women who are age 30 years and older. Because HPV testing is not currently publicly funded and is not part of the organized screening program, many women do not opt to have the HPV test. An appropriate alternative following an ASCUS cytology result is to repeat the Pap test in six months (refer to 2012 Ontario Cervical Screening Cytology Guidelines Summary: www.cancercare.on.ca/screenforlife).

If you and your patient decide to proceed with HPV testing based on the above cytology management guidelines, please contact your local laboratory to determine how to order the test and the cost to the patient.