Cancer Care Nova Scotia
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Volume 4 Number 6
Fall 2013
Cancer Information for Primary Caregivers
In Practice

Updated Nova Scotia Cervical Cancer Screening Guidelines

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Overview

The 2013 Nova Scotia Cervical Cancer Screening Practice Guidelines update the recommendations in place since 2006 in three main areas: the frequency of routine Papanicolau (Pap) testing for precursor lesions in the endocervical canal, and the age and circumstances governing when screening should begin and end.

The interval between Pap tests is now *three years*. The new rule of thumb for beginning routine screening is within three years of a woman becoming sexually active or upon reaching the age of 21, whichever comes later. Women who have never been sexually active do not need Pap screening. And testing can now cease for women at age 70 if they have had *three or more negative Pap tests in the previous 10 years*. The changes reflect recent progress in understanding the natural history of cervical cancer, and a greater appreciation of the balance of benefits and risks associated with cervical cancer screening.

The guidelines apply only to women with *no* symptoms of cervical cancer who are, or have been, sexually active. Sexual activity refers to vaginal intercourse, vaginal-oral or vaginal-digital sex and the use of shared sex toys and devices. HPV vaccination does not affect screening recommendations. These new recommendations deal only with Pap testing; not other preventive health screens if indicated.

Excluded from the new screening guidelines are women with symptoms of cervical cancer.

	NS 2006 guidelines	NS 2013 guidelines
Initiation	Within 3 years of first vaginal sexual activity or age 21, whichever occurs earlier.	Within 3 years of first vaginal sexual activity or age 21, whichever comes later. Women who have never been sexually active do not need Pap screening.
Interval	3 annual negative Paps, then screening every two years	***Screened every 3 years***
Cessation	Discontinue screening at age 75 ONLY if there is an adequate negative screening history in the previous 10 years (i.e. 3 or more negative tests)	Discontinue screening at ***age 70*** ONLY if there is an adequate negative screening history in the previous 10 years (i.e. 3 or more negative tests)

The 2013 guidelines

Initiation of screening
- Routine Pap testing of sexually active women should start at age 21.
- For women who become sexually active after age 21, screening should start within three years of their first sexual encounter.
- Sexually inactive women do not need testing.

Screening interval
- Pap testing should be done every *three years.*

Cessation of screening
- Screening should stop for women at age 70, only if they have had three or more negative Pap tests in the previous 10 years.

Screening women with special circumstances
- Women with a history of cancer of the cervix or who have been treated (by LEEP, laser, cryotherapy, cone, hysterectomy) should be screened annually for life.
- Women with a history of minor abnormality on a Pap smear that resolves spontaneously or who have had a more significant abnormality on a Pap smear and were referred for colposcopy but had no tissue diagnosis or treatment for cervical dysplasia *do not require* annual screening for life.
- Screening can be discontinued in women who have had a total hysterectomy for benign causes with no treatment for cervical dysplasia or history of cancer of the cervix.
- Immunocompromised or HIV positive women should receive annual screening for life.
- Whether or not a woman is pregnant, the same indications for screening frequency should apply, although manufacturers' recommendations for the use of individual screening tools during pregnancy should be taken into account.
- Women who have sex with women should follow the same cervical screening regimen as women who have sex with men.

Why the changes?

The new Nova Scotia guidelines reflect the latest knowledge about the natural history of pre-cancer of the cervix and about the risks and benefits of screening. They also affirm the vital role of the Pap test in detecting precursor lesions for early, less invasive treatment, and good outcomes.

Essentially the recommendations refine the application of this important screening tool for best results and least patient harm, based on the latest medical evidence.

Delaying screening initiation:
Based on a growing understanding of pre-cancer of the cervix, it is now apparent that mild dysplasia – the lowest grade abnormal change in cell development – usually resolves spontaneously in women under age 25. Today the condition is usually followed without treatment.

In this age group, cervical cancer is extremely rare and the risk of dying from the disease is miniscule. Furthermore, Pap tests for this group do not reduce the risk.[1] However, if infections found in this age group fail to resolve spontaneously and persist long enough to warrant treatment, the results have been found to be as good as if they had been treated earlier.

There is also some evidence that treated women have a higher risk for premature labour, which could disproportionately affect this under 25 age group, compared to older women who are more likely to have had their children.[1] So, based on developments in understanding the disease and in consideration of the potential harm of screening young women, the new Nova Scotia guidelines raised the start of screening to age 21 for women who have become sexually active.

The effect of the new vaccine against the sexually transmitted human papilloma virus, or HPV, was not a factor in developing the new guidelines. It is estimated HPV causes about 70 per cent of all cervical cancer. The vaccine, which became available in Nova Scotia for grade seven girls in 2007, is still too new to assess its impact on screening and the incidence of cervical cancer. Women who have been vaccinated still need Pap screening.

Lengthened screening interval:
The increased interval between screenings does not present a higher risk for patients in developing unchecked cervical lesions. Pap smears have been shown to be very effective as long as they are done once every four-to-five years, so once every three years makes sense. It provides some buffer if a patient waits an extra year to have the test redone. And by moving to every three years, it means there will fewer false positive Pap tests along with less potential for unnecessary patient stress and over treatment.[1]

Earlier age of screening cessation:
Cervical cancer is rare over the age of 70, and the harms of investigation and treatment of abnormal Pap tests in this age group are felt to outweigh any benefits.

Screening participation

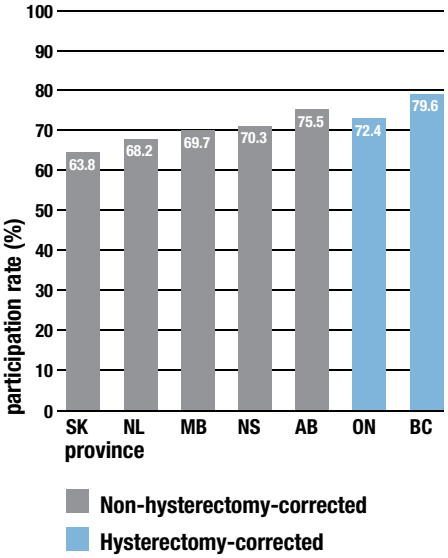
Nova Scotia has one of the longest-standing cervical cancer screening programs in Canada with strong participation (70.3%, not adjusted for hysterectomy status), and a large percentage of women returning for repeat screening (83.8% retention rate) as illustrated in Figures 1 and 2.

Cancer incidence

The incidence of cervical cancer has decreased considerably in Nova Scotia since the introduction of the Cervical Cancer Prevention Program in 1991 (See Figure 3).

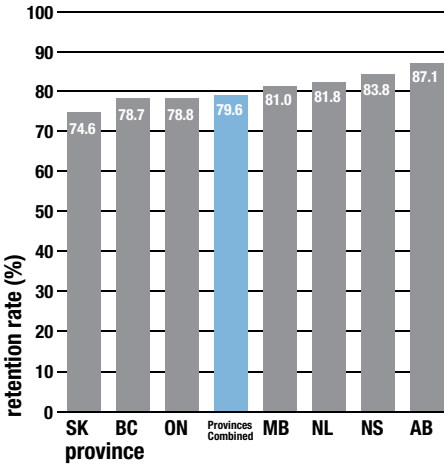
In the 2011 report, *Cervical Cancer Screening in Canada – Monitoring Program Performance 2006-2008* (CPAC), the invasive cancer incidence rate, which includes squamous cell cancers, adenocarcinomas, adenosquamous carcinomas and unclassified cervical cancers, peaked among eight reporting provinces in women aged 30-39. In Nova Scotia in 2008, there were 32 cases of invasive cervical cancer reported in 322,181 women, giving a 9.9 incidence rate per 100,000 population of women.[2]

Figure 1 **Percentage of women 20-69 years of age who had at least one Pap test by province, 2006-2008**



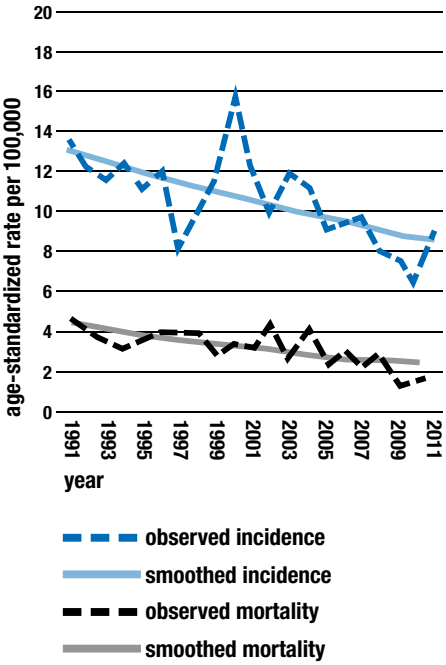
Source: Canadian Partnership Against Cancer (CPAC), *Cervical Cancer Screening in Canada – Monitoring Program Performance 2006-2008*, December 2011 (p. 17).

Figure 2 **Percentage of women 20-69 years of age who had a Pap test within 3 years after a negative Pap test by province, 2004 and 2005**



Source: Canadian Partnership Against Cancer (CPAC), *Cervical Cancer Screening in Canada – Monitoring Program Performance 2006-2008*, December 2011 (p. 18).

Figure 3 **Trends in age-standardized invasive cervical cancer incidence and mortality, females, Nova Scotia, 1991-2011**

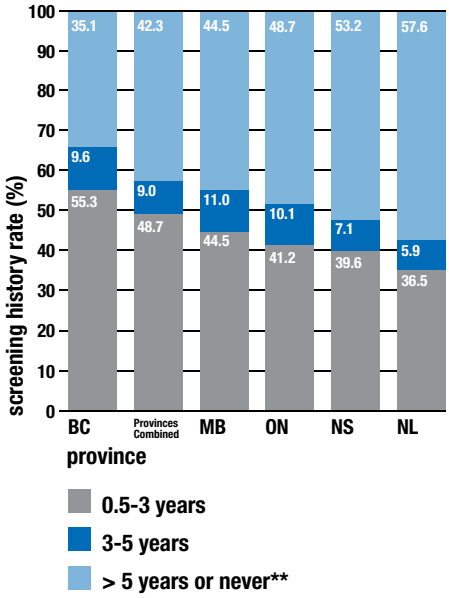


Notes: Rates are age-standardized to the 1991 Canadian population

Source: *Nova Scotia Cancer Registry, Surveillance and Epidemiology Unit, Cancer Care Nova Scotia,* October 4, 2013.

Screening history in invasive cancer
The retrospective review of screening histories of individuals diagnosed with invasive cervical cancer provides important feedback on screening outcomes. In Nova Scotia, more than half of those individuals found to have invasive cervical cancer were less likely to have had regular Pap tests or to have ever been screened (See Figure 4).

Figure 4 **Percentage of women 20-69 years of age diagnosed with invasive cervical cancer* since last screening Pap test by province, 2005-2008**



Notes: ON provided data for 2008 only and >5 years included >5 to 10 years. Provinces combined include NS, BC, MB and NL.

*Invasive cervical cancer includes squamous cell cancers, adenocarcinomas, adenosquamous carcinomas and unclassified cervical cancers (i.e., all ICD-O C53).

**The greater than five or never category includes women whose Pap tests were greater than five years prior to diagnosis, who had no record of any Pap tests, or whose Pap tests occured during the six months prior to diagnosis and were therefore considered diagnostic Pap tests.

Source: Canadian Partnership Against Cancer (CPAC), *Cervical Cancer Screening in Canada – Monitoring Program Performance 2006-2008*, December 2011 (p. 29).

The 2013 Nova Scotia Cervical Cancer Screening Guidelines, the first since 2006, involved considerable consultation by *Cancer Care Nova Scotia's* Cervical Cancer Prevention Program with Doctors Nova Scotia's section representatives in General Practice, Pathology and Gynecology as well as representatives from the cytology community, and district health authority stakeholders. Together they studied the recommendations of the Canadian Task Force on Preventive Health Care. The Nova Scotia group adopted most of the Canadian recommendations, but took a more cautious approach by recommending an earlier age to begin routine screening than the Task Force did.

Both the Canadian Task Force and *Cancer Care Nova Scotia* and its stakeholders agreed about the rationale to revise screening guidelines. Other countries were having as much success as Canada with screening regimes that began at a later age and continued with less frequency than the Canadian norm. Much of the reduced incidence in invasive cervical cancer, as the Task Force acknowledged, had likely been due to Pap screening. Yet, based on the latest knowledge about the disease, screening outcomes, and the potential harm from testing, the early and frequent Pap testing of the past was deemed unnecessary. The screening could be just as effective if Pap tests were done once every three years instead of once every two years.[1]

However, when it came to the national findings affecting the screening of women under age 25, the Nova Scotia group was more circumspect. The national recommendations called for sexually active women under age 20 (strong recommendation with high quality evidence) and between the ages of 20-24 with no symptoms of cervical cancer, to be exempt from routine screening (weak recommendation with moderate quality evidence). They recommended screening start at age 25 for women who are, or have been, sexually active (weak recommendation with moderate quality evidence for screening women aged 25 – 29; strong recommendation with high quality evidence for screening women aged 30 – 69).[1]

Nova Scotia health care providers recognized the risk of cervical cancer in the 20-24 age group is very low, but noted it is still higher than for those under age 20. There was also concern that if sexually active women did not start routine Pap tests until age 25, it might be more difficult to get them into the habit. Delays in beginning the Pap test regimen could lead to undesirably short base screening histories. For those reasons the Nova Scotia guidelines call for routine screening at three-year intervals for sexually active women starting at age 21. The decision conforms to the approach taken by most other Canadian provinces on the issue.

The guidelines also state that when sexual activity starts after age 21, screening should begin within three years of a woman's first sexual encounter. For women who are sexually inactive, no Pap testing is required.

1. If I find a cervical dysplasia in a 20-year old woman, am I not preventing cancer?

No. For most 20-year olds with cervical dysplasia, the condition will clear up on its own. If it persists and becomes cancerous, the natural history of cervical dysplasia indicates that the transformation will not happen until the woman turns 40. That means there will be ample time to treat the dysplasia if it lingers. The evidence from cases in which early-acquired cervical dysplasia becomes cancerous indicates that the outcome from treatment at age 40 will be the same as if the precursor condition had been treated when the woman was younger.

A wait-and-see approach also has the added benefit of saving 20-year olds from potential unnecessary treatment and the slightly elevated risk of premature labour that goes with it.[1] Since women of this age are unlikely to have started families, they are disproportionately vulnerable to the possible harm that could arise from treatment.

2. I have had a patient diagnosed with cervical cancer in their late teens. How do these guidelines reflect this?

Such an occurrence is extraordinarily rare. In the very young, cancer, when it does arise, can develop quickly and unexpectedly. The tissue will appear normal; two weeks later there may be an abnormality, and two months later cancer appears. Those situations are unlikely to ever be picked up by Pap tests.

3. If sexually active women no longer require Pap testing prior to age 21, do they still need screening for sexually transmitted infections or STI?

Sexually transmitted infections and Pap tests are not mutually exclusive. However, the Nova Scotia Cervical Cancer Screening Guidelines do not make any recommendations about STI screening. It is outside their purview. Still there is no doubt some people automatically link Pap screening and STI testing in women because the test for chlamydia can be done with a cervical swab, making it convenient to do both tests during the same patient visit. If there is value in STI testing, you can still do it. There are urine tests available for chlamydia, which are less invasive than cervical swabs and probably preferable for patients.

4. If my patient has been immunized for HPV, does she still require regular Pap tests?

Yes. We know HPV immunization appears to offer good protection against common kinds of pre-cancer of the cervix. HPV accounts for about 70 percent of cancer of the cervix but the vaccine has less than a 100 percent success rate. The degree of HPV immunization also depends on the vaccinated woman's exposure to HPV, if any, prior to immunization, and whether all three required vaccine doses were delivered in the right timeframes. A 30-year old woman may derive some benefit from getting vaccinated for HPV. However, the vaccine would not be as advantageous as it would be to a younger woman if she were vaccinated before exposure to the virus. The vaccine prevents the acquisition of new HPV infections but it does not protect against pre-existing ones.

Neither the Nova Scotia Cervical Cancer Screening Guidelines nor the recommendations of the Canadian Task Force on Preventive Health Care, on which the guidelines were based, factor in the HPV vaccine. It was first given to Nova Scotia grade seven girls in 2007, so it is too early to gauge the impact of the vaccine on cervical cancer screening.

5. Some of my patients are apprehensive about the new lengthened interval between Pap tests. They worry once every three years may not be enough, and they are suspicious it's about saving money rather than lives. What should I tell them?

Explain the evidence. The Canadian Task force on Preventive Health Care has noted that while much of the reduced incidence of cervical cancer in Canada can be attributed to screening, early and frequent Pap testing is not required to the same extent as we once thought advisable. Other countries have achieved similar results as Canada's with testing that is less frequent and starts at a later age.

Also the potential benefits and harms from over screening need to be weighed. More tests than needed inevitably end in more false-positive results and over diagnosis that prompt unnecessary follow-up tests and treatment. A woman with an initial abnormal Pap test may be asked to undergo another Pap test or have a colposcopy. If the cervix is biopsied and shows a cervical intra-epithelial neoplasia, the transformation zone may be removed. Besides short-term pain and bleeding, the procedure also brings a slight risk of possible early loss of future pregnancies or premature labour.

Our experience with Pap testing has given us great confidence in the decision to reduce the screening

Section 3 **Frequently asked questions** *(cont'd)*

frequency to every third year from every second year. In the early history of Pap testing it was done annually. Pap smears, as we now know, have proven very effective as long as they are done up to once every four or five years. So a three-year interval is actually a cautious and prudent approach and contains a buffer in case a woman experiences a 12-18 month lapse in following the screening regimen.

There will certainly be financial savings from the reduced Pap test frequency but this is a side effect, not a determining factor in the change. The guidelines were compiled on the medical evidence and reflect best practices. Everyone that participated in developing the 2013 Nova Scotia Cervical Cancer Screening Practice Guidelines shared a single objective: the prevention of cervical cancer.

Section 4 **Resources**

Cancer Care Nova Scotia provides many resources to support both patients and health care providers. With respect to cervical cancer prevention, these include:

- **Updated Quick Reference Card on Pap screening**
  The laminated card with this edition of *In Practice* contains useful care provider information on the new screening guidelines in a quick accessible format. The same information is also available in digital form on the Health Professionals section of the *Cancer Care Nova Scotia* website *(www.cancercare.ns.ca)*.

- **Information Sheets for Patients**
  An updated patient information sheet on Pap testing is available. A sample is included with this issue of *In Practice* and is available for self-print through the *Cancer Care Nova Scotia* website *(www.cancercare.ns.ca/cervicalcancerprevention)*.

- **Screening Histories – physicians & patients**
  A confidential registry of all Pap smears done in Nova Scotia since 1978 is maintained by *Cancer Care Nova Scotia's* Cervical Prevention Program. Women or their physicians can request printouts of their Pap test histories (provided the tests were done in Nova Scotia) by calling the program at 1.888.480.8588 or 902.473.7438.

- **Professional Development & Quality Initiatives**
  - The Cervical Cancer Prevention Program issues report cards to Pap smear takers and colposcopists to provide them with feedback on their practice.
  - Regular feedback is provided to the regional laboratories in the province that process Pap smears. The Program also facilitates the development of performance targets and benchmarks.
  - The Program operates a "fail safe" mechanism – following up with smear takers on any abnormal Pap test where there does not appear to be follow up within approximately 15 weeks.
  - The Program hosts continuing medical education and professional development workshops.

Section 5 **Takeaway messages**

- The 2013 Nova Scotia Cervical Cancer Screening Guidelines reflect our growing understanding of the natural history of cervical cancer and a greater appreciation of the balance of benefits and risks associated with cervical screening.
- Women who have had the HPV vaccine still need regular Pap tests.
- The cervical screening guidelines are recommendations for Pap testing. Women may require other preventive health screens independent of Pap testing.

Questions

If you have additional questions about cervical cancer screening, please call the Cervical Cancer Prevention Program at 1.888.480.8588 or 902.473.7438.

References:
1. Canadian Task Force on Preventive Health Care, (CTFPHC) "Recommendations on screening for cervical cancer", *Canadian Medical Association Journal 185*(1) 2013, 35-45, doi: 10.1503/cmaj.121505

2. Canadian Partnership Against Cancer (CPAC), *Cervical Cancer Screening in Canada – Monitoring Program Performance 2006 – 2008*, December 2011 (p. 27)

Cancer Care Nova Scotia is a provincial program of the Department of Health and Wellness. Its mandate is to evaluate, coordinate and strengthen the cancer system in Nova Scotia.

Cancer Care Nova Scotia works with and supports professionals and stakeholders in the health care system to bring about patient-centred change. Its ultimate goal is to reduce the burden of cancer on individuals, families, communities and the health care system.

In Practice is written specifically for primary care practitioners with information that we hope will make a difference in your cancer practice.

Please contact Christine Smith, Communications Manager, *Cancer Care Nova Scotia*, by phone at 902.473.2932 or by email at christine.smith@ccns.nshealth.ca with comments or suggestions for future topics.

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