

Screening for Cervical Cancer: Recommendations 2013

Canadian Task Force on Preventive Health Care

Presentation for free use to disseminate Guidelines. Feb 2013



Putting Prevention into Practice

Canadian Task Force on Preventive Health Care
Groupe d'étude canadien sur les soins de santé préventifs

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Background

- This guideline (2013) updates previous CTFPHC cervical cancer screening guidelines (1994).
- 1994:

<20 years	20 to 69 years	70+ years
Annual screening with cervical cytology following initiation of sexual activity, or at age 18 years.	After 2 normal Pap smears, screening recommended every 3 years (frequency may be increased in presence of risk factors).	Routine screening not recommended.

- Much of the profession continued annual screening

Goal of the 2013 Guideline

- To provide recommendations for the prevention of cervical cancer related morbidity and mortality.
- To clarify the age of screening initiation, cessation and the optimum screening interval.
- To form the recommendations on an *updated* systematic review of the literature and the *current* epidemiology and diagnosis of the disease in Canada.

Evidence Search

Searched for studies of Cancer ***incidence*** and ***mortality reduction***

NOT intermediate outcomes

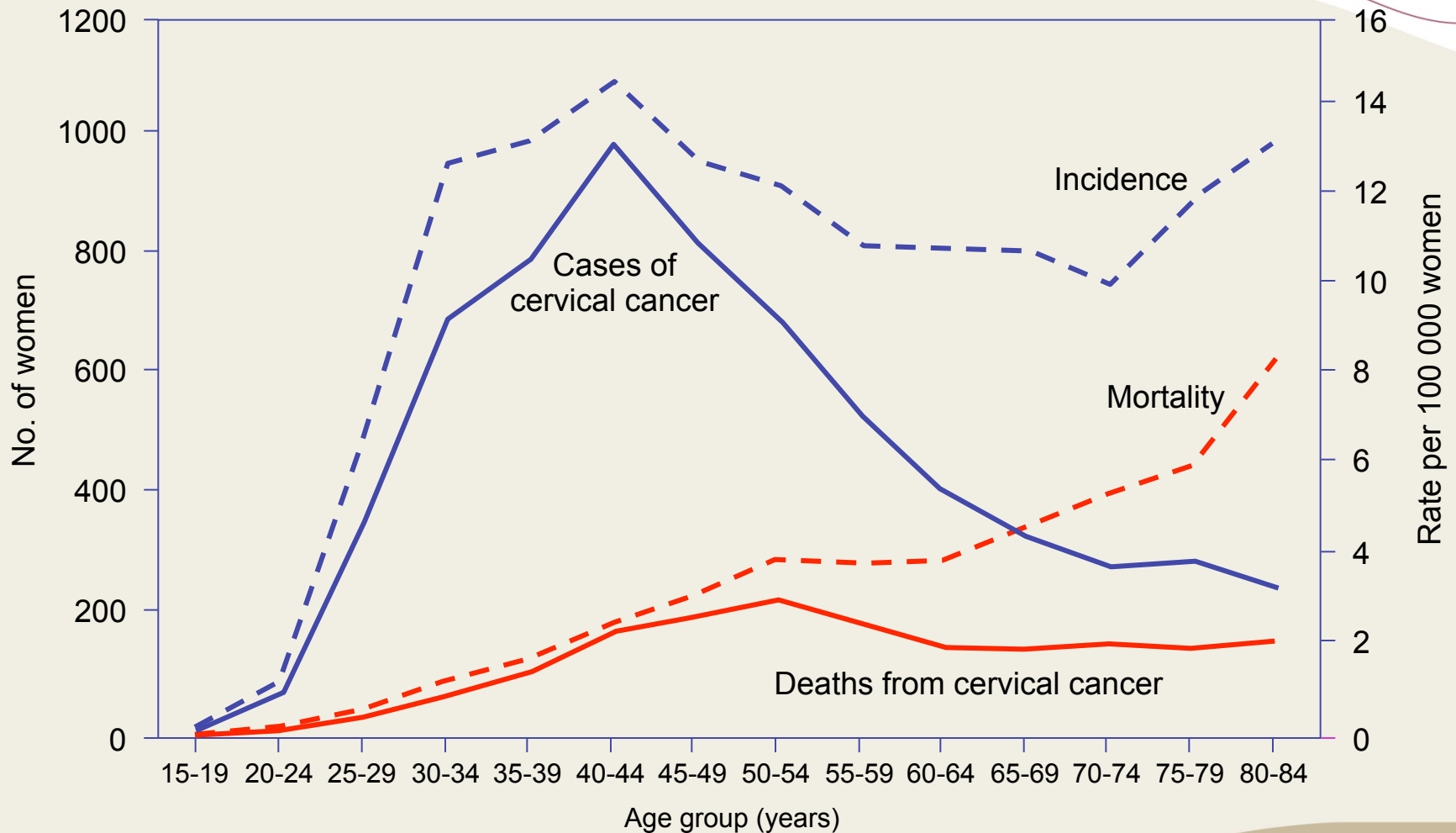
- LSIL, HSIL
 - CIN2, 3
 - HPV infection
-
- Unclear (but high) proportion regress
 - Small proportion progress, unclear time scale

New Understanding of Cervical Cancer

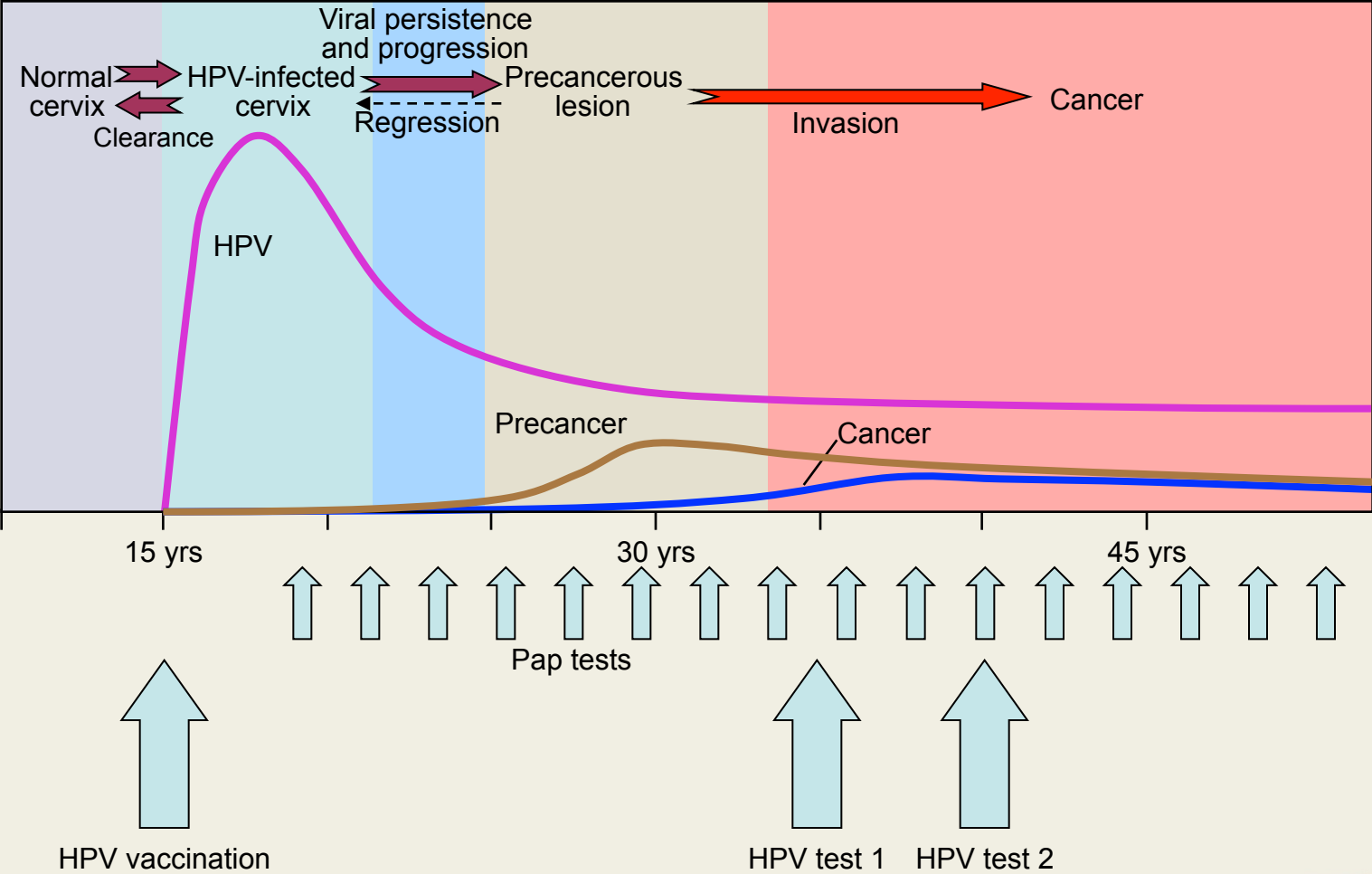
- Biology
- Balance of harms/benefits
- Canadian changes in epidemiology
- Lifetime probability of Death or Incidence

	1952	1972	2002
Mortality	0.94	0.66	0.22
Incidence	Not known	1.54	0.66

Current Epidemiology of Cervical Cancer



The Natural History of HPV Infection and Cervical Cancer



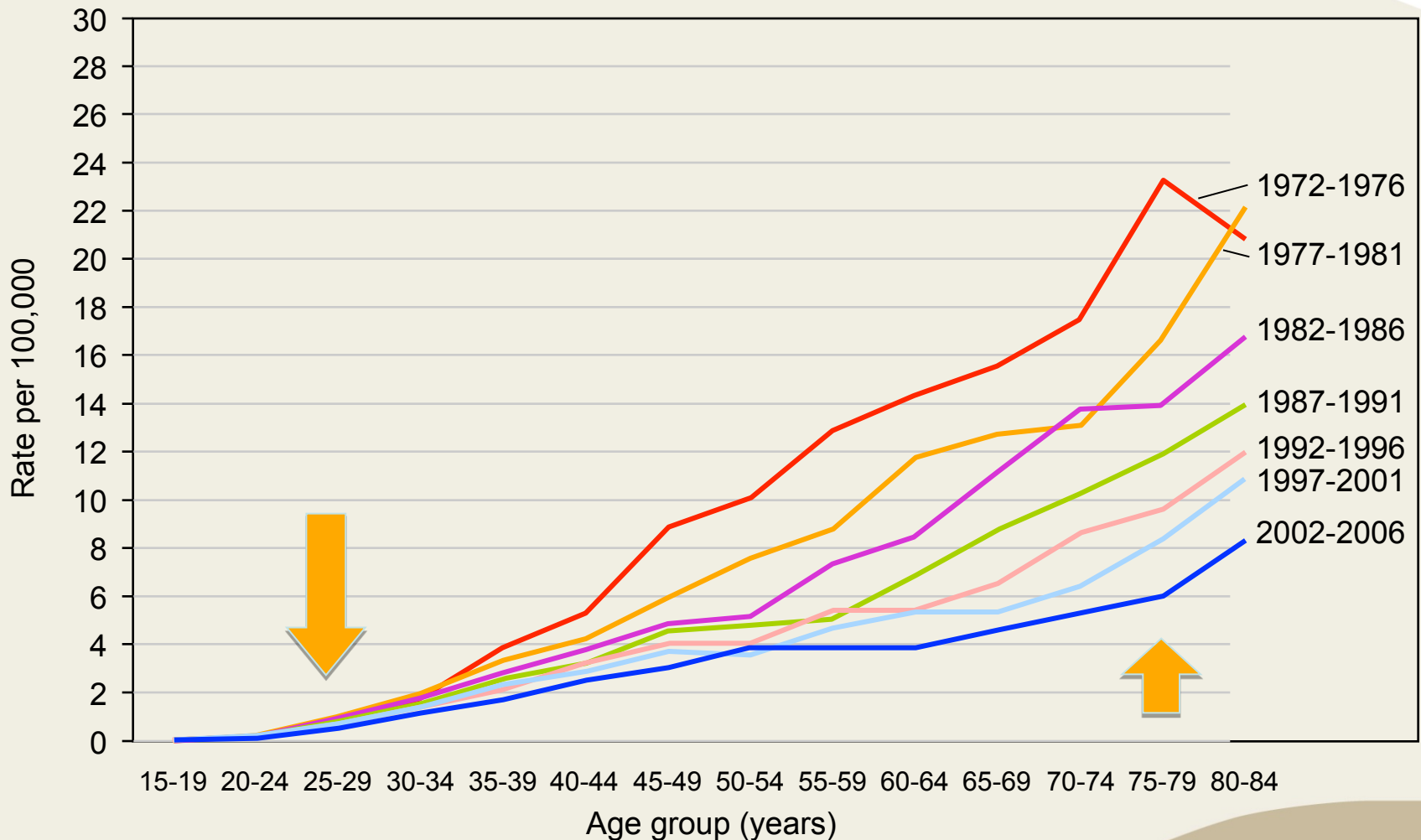
Adapted from Schiffman M, Castle PE. The promise of global cervical-cancer prevention. *NEJM* 2005; 353(20):2101-4

Abnormal Smears by Age: Percent (%)

	20-29	30-39	40-49	50-59	60-69
Abnormal	9.8	4.5	3.5	2.4	1.6
ASC-H	0.4	0.2	0.1	0.1	0.1
HSIL+	1.1	0.6	0.3	0.2	0.1

2006-2008 From **Cervical Cancer Screening in Canada Monitoring Program Performance - Report**

Mortality from Invasive Cervical Cancer in Canada in Periods from 1972 to 2006



Different Approach to Assessment

- From:
 - Is preventive maneuver effective?
- To:
 - Is it a good decision for the person?

More patient-centered approach

Change in Approach

GRADE method

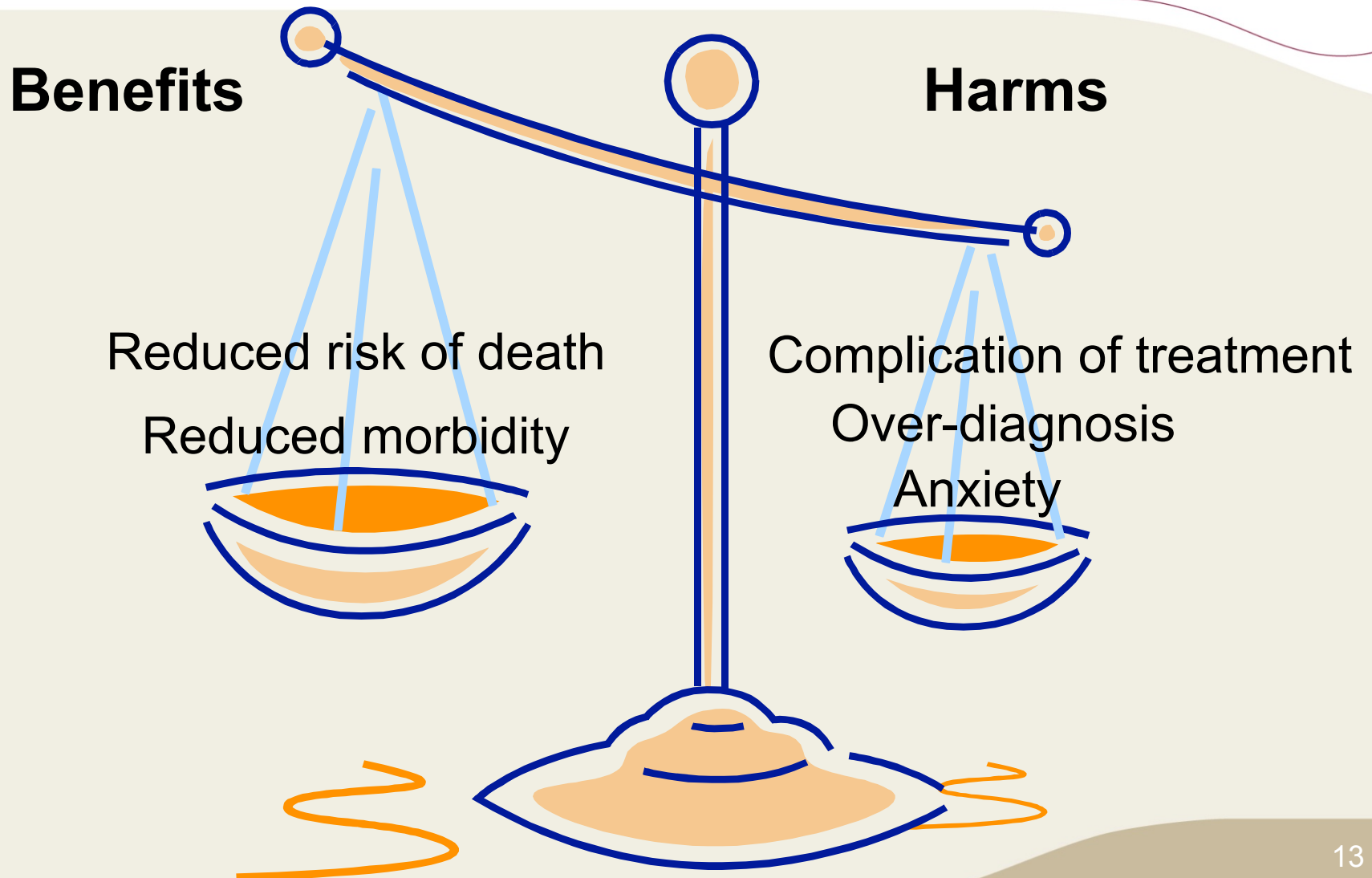
GRading of

Assessment

Development and

Evaluation system

Decision Balance



Emerging Evidence of Harms

- Cone biopsy/treatment
- Cervical incompetence: double risk
 - Early pregnancy loss
 - Premature labour
- Cervical scarring: cannot dilate
- Affect young >> completed families

GRADE Outcome

Strength of evidence

- Based on quality of study design, implementation
- Strength of effect
- Consistency
- External validity

How confident that evidence correctly reflects true effect of service?

THEN

Strength of recommendation

- Balance of evidence for harm vs benefit
- Uncertainty or variability in values and preferences
- Use of resources

GRADEs of Recommendation

Strong recommendations

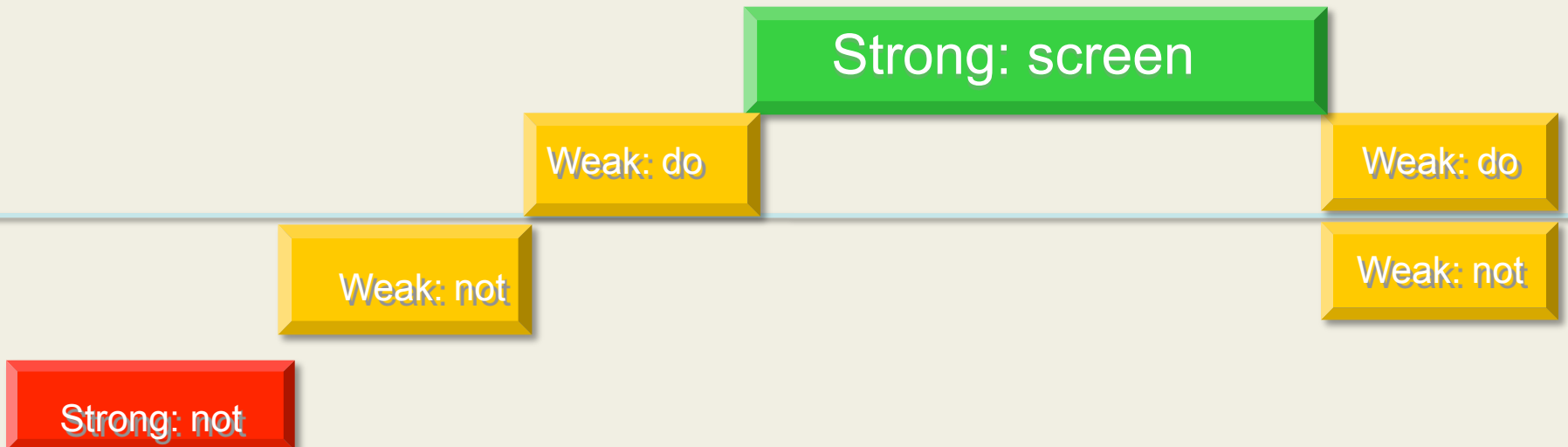
- Most individuals in this situation would want the recommended course of action.
- Most individuals should receive the intervention
- Adopt as policy

Weak Recommendations

- The majority of individuals in this situation would want the suggested course of action,
- Different choices will be appropriate for individual patients and clinicians must help each patient arrive at a management decision
- Policy-making will require substantial debate

Cervical Screening

- Change in recommendations
- GRADE approach
- Decisions reflect continuous change in evidence with age



Screening for Cervical Cancer

RECOMMENDATIONS

Considerations

These recommendations apply to women who:

- are 15+ years of age;
- are asymptomatic for cervical cancer; and who
- are or have been sexually active.

These recommendations *do not* apply to women:

- who do not have a cervix (due to hysterectomy) No screening needed
- who have limited life expectancy such that they would not benefit from screening.
- with symptoms of cervical cancer (e.g., abnormal cervical bleeding)
- who are immunosuppressed (e.g., organ transplantation)

Summary of the recommendations

- For a balance of potential benefits and harms, the CTFPHC recommends screening asymptomatic women aged 25-69 with cytology (Pap test) every 3 years.
- Cytology screening is recommended (conventional or liquid-based, manual or computer-assisted).
- We decided to make no recommendation on Human Papillomavirus (HPV) testing (alone or in combination with Pap).
- Evidence was summarized, and recommendations made, for age groups:
 - <20 yrs; 20 to 24 yrs; 25 to 29 yrs; 30 to 69 yrs; 70+ yrs

Findings: women <20 years

Evidence of screening effectiveness

- No evidence found for effectiveness in women <20 years.
 - Used epidemiological estimates to determine potential benefit of screening.
 - Incidence is very low with no deaths from cervical cancer in Canada from 2002-2006.
 - Therefore cannot reduce it further!

Evidence of harms of screening

- No *national* data on prevalence of abnormal findings in this age group.
- Data from AB show that 10% of women screening <20 years referred for colposcopy (potential for harms)¹.

1. Towards Optimized Practice Program. Guideline and screening for cervical cancer.

<http://www.topalbertadoctors.org/download/587/cervical+cancer+guideline.pdf>. Updated 2011. Accessed 04/20, 2012.

Recommendation: women <20 years

- **For women aged <20 years, we recommend *not routinely* screening for cervical cancer** (strong recommendation; high quality evidence)
- This recommendation is based on:
 - Very low incidence of cervical cancer and no deaths due to cervical cancer
 - No studies addressing effectiveness in this age group; and
 - Evidence of minor harms to 10% of those screened
 - Some may develop more severe harms later:
 - Potential pregnancy losses subsequent to cervical treatment.
- Strong recommendation reflects judgment of the CTFPHC that the potential harms outweigh the benefits.

Findings:

women 20 to 24 years, and 25 to 29 years

Evidence of screening effectiveness

- No evidence on effectiveness of screening on mortality.
- UK study found incidence of cervical cancer in women up to age 30 was not affected by screening women aged 20-24¹.
- No reduction in mortality in Canada among women 20-24 years since 1970s².

Evidence of harms of screening

- Specificity for pre-cancer lesions lower & risk of false-positives higher for <30 years.
- High incidence of minor harms³ and pregnancy-related harms.
- Potential for early pregnancy loss or premature labour (after cervical treatment).

1. Sasieni P, Castanon A, Cuzick J. Effectiveness of cervical screening with age: population based case-control study of prospectively recorded data. *British Medical Journal*. 2009;339:b2968.

2. Canadian Cancer Registry (1992-2006) and the National Cancer Incidence Reporting System (1972-1991)

3. TOMBOLA (Trial of management of borderline and other low-grade abnormal smears), Sharp L, Cotton S, Cochran C, et al. After-effects reported by women following colposcopy, cervical biopsies and LLETZ: Results from the TOMBOLA trial. *International Journal of Obstetrics and Gynaecology*. 2009;116:1506.

Recommendation: women 20 to 24 years

- **For women aged 20 to 24 we recommend *not routinely* screening for cervical cancer**
(Weak recommendation; moderate quality evidence)
- This recommendation is based on:
 - low incidence and mortality of cervical cancer among this age group;
 - uncertain benefit of screening among this age group;
 - lack of benefit found in older ages from screening at this age;
 - higher risk of false positive tests (and associated harms) among women <30 compared to older women.
- The CTFPHC conclude that the harms outweigh the benefits, but assign a weak recommendation given the uncertainty of the evidence.

Recommendation: women 25 to 29 years

- **For women aged 25 to 29 we recommend *routine screening* for cervical cancer every 3 years.**
(Weak recommendation; moderate quality evidence)
- This recommendation is based on:
 - higher incidence and mortality of cervical cancer in this age group;
 - however, the limitations to Pap testing are similar to those among 20-24 year olds
- Weak recommendation reflects concerns about:
 - the rate of false positives; and
 - the harms of overtreatment

Findings: women 30 to 69 years

Evidence of screening effectiveness

- Strong association between introduction of screening and reduced incidence of cervical cancer (*cohort studies*).
- RCT in rural India showed that 1-time screening found non-significant impact on 8-year mortality and incidence (*external validity?*).
- Screening associated with decrease in incidence (*cohort study, 3-yr follow-up*).
- Odds of having 1+ Pap tests were lower among women with invasive cancer (*meta-analysis of 12 case-control studies*).

Evidence of harms of screening

- Abnormal findings and high grade lesions declined with age¹.
- Rate of biopsy/treatment decrease with age.
- Pregnancy-related harms become less important.

1. Canadian Partnership Against Cancer. Cervical cancer screening in Canada monitoring program performance - report 2006-2008. 2011.

Recommendations: women 30 to 69 years

- **For women aged 30 to 69 we recommend *routine screening* for cervical cancer every 3 years.**
(Strong recommendation; high quality evidence)
- This recommendation is based on:
 - evidence for the positive effect of screening;
 - higher cervical cancer incidence and mortality in this age group; and
 - lower rates of potential harms, compared to younger women.
- Strong recommendation based on the CTFPHC's confidence that desirable effects of screening outweigh the undesirable effects.

Findings: women 70+ years

Evidence of screening effectiveness

- Limited evidence re: when to stop screening.
- Limited evidence suggests protective effect of screening in women 70+^{1,2}
- Mortality and incidence rates of cervical cancer remain high in this age group (Canada).
- Possible benefit in screening if not adequately screened previously.

1. Andrae B, Kemetli L, Sparén P, et al. Screening-preventable cervical cancer risks: Evidence from a nationwide audit in Sweden. *Journal of the National Cancer Institute*. 2008;100:622.

2. Hoffman M, Cooper D, Carrara H, et al. Limited pap screening associated with reduced risk of cervical cancer in South Africa. *International Journal of Epidemiology*. 2003;32:573.

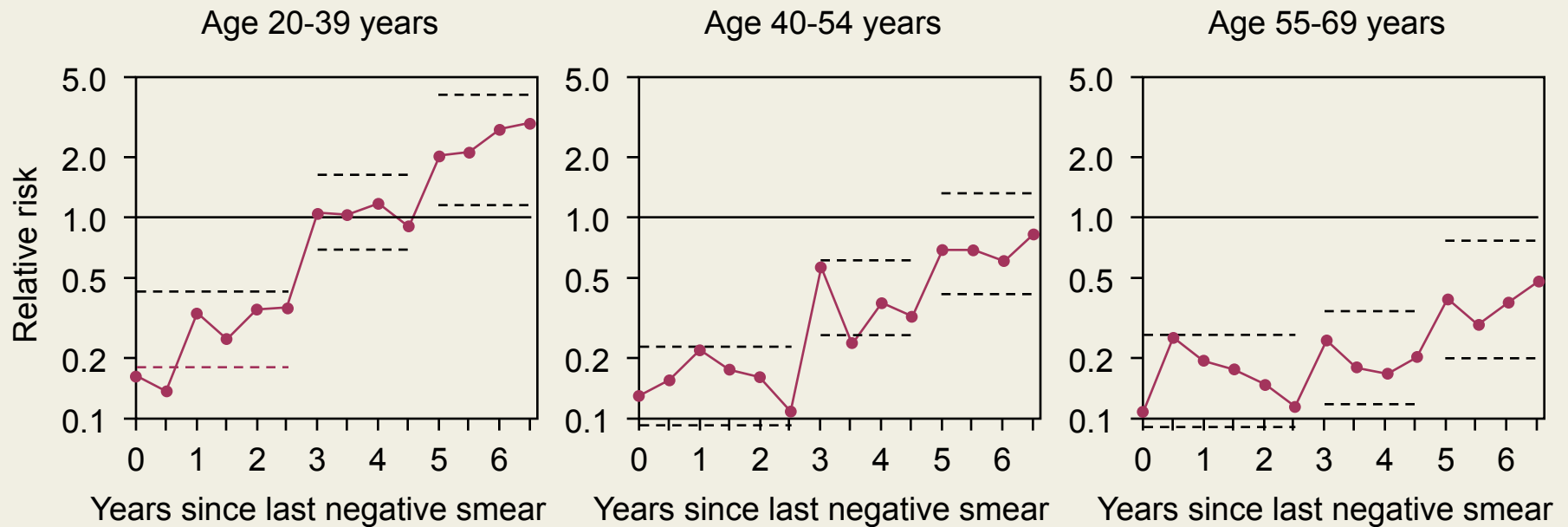
Recommendations: women 70+ years

- **For women aged ≥ 70 adequately screened (i.e. 3 successive negative Pap tests in last 10 years), we recommend that *routine screening may cease*.**
(Weak recommendation: low quality evidence)
- Recommendation based on:
 - Limited evidence that screening up to this age prevents cervical cancer development thereafter; fewer harms in this age range, but speculum exam may be uncomfortable/difficult.
- **For women aged ≥ 70 not adequately screened, we recommend *continued screening* until 3 negative test results have been obtained.**
(Weak recommendation: low quality evidence)
- Recommendation places high value on:
 - Limited evidence for screening effectiveness; and potential to detect and treat cervical cancer in this age group

Recommended screening interval: 3 years

- Screening intervals ≤ 5 years offer protection
 - 13 case-control, 2 cohort studies
- Greater benefit seen in shorter intervals in some of the studies.
- CTFPHC recommends 3 year interval;
 - balances potential for benefit from smaller intervals, with
 - greater potential for harm from more frequent screening
- Most countries outside North America use 3-5 year intervals

Protective efficacy by duration since last smear



Summary of the recommendations (1)

Cytology (conventional or liquid-based, manual or computer-assisted)

- **For women aged <20, we recommend *not routinely* screening for cervical cancer**
(Strong recommendation; high quality evidence)
- **For women aged 20 to 24, we recommend *not routinely* screening for cervical cancer**
(Weak recommendation; moderate quality evidence)
- **For women aged 25 to 29, we recommend *routine screening* for cervical cancer every 3 years.**
(Weak recommendation; moderate quality evidence)

Summary of the recommendations (2)

- For women aged 30 to 69, we recommend ***routine screening*** for cervical cancer every 3 years.
(Strong recommendation; high quality evidence)
- For women aged ≥ 70 who have been adequately screened (i.e. 3 successive negative Pap tests in the last 10 years), we recommend that ***routine screening may cease***. For women aged 70 or over who have not been adequately screened, we recommend ***continued screening until 3 negative test results have been obtained***.
(Weak recommendation; low quality evidence)

Special risk groups?

Many suggested high risk groups

- Start sexual activity young
- Multiple partners
- Aboriginal
- Attending STI clinics

Minimal evidence: no specific recommendations

Women sex with women

- Limited evidence that they are at risk

Duration from onset of sexual activity

NO evidence

“Jade Goody” effect

Starting screening early?

- Rapidly advancing cancer among young women
- Screening works for **chronic, common** disease
 - Must be treatable: criteria for screening
- Little effect for patients under 25:
 - Rapidly advancing but rare
- Adenocarcinoma: unclear whether increasing

Response to anecdotes re young women

Women whose “lives were saved” by a pap test in teenage or young 20s

- Cancer very rare at these ages, but possible
- Majority likely to have been high grade abnormalities, not cancer
- Most would have regressed if left alone:
 - “HPV infection defeated by immune system”
 - High grade abnormality rate much higher than lifetime cancer risk
- Small, if any, preventive effect for young
- Some rapidly advancing cancers:
 - screening and treatment ineffective
- Balance of very small benefit against harms of treatment
- GRADE approach recognizes different opinions about balance

“Yes but...” questions.

What about:

Chlamydia screening?

Vaginal examinations?

Teaching annual physicals?

- Chlamydia screening by urine testing
- Vaginal exams poor screening test for ovarian, uterine cancer
- Should not do *annual physicals*:
 - periodic health assessment

Screening for Cervical Cancer

WHAT ABOUT HPV TESTING?

The CTFPHC Position on HPV Testing

- Search for studies showing lower incidence/mortality of cancer
- The CTFPHC felt it premature to make a recommendation on HPV testing alone (primary testing), or in combination with cytology (co-testing or as a secondary reflex triage test).
- Canadian Partnership Against Cancer (CPAC):
 - HPV Testing for Cervical Cancer Screening
 - Expert panel: summary of evidence
 - 29 March 2012
- Summarized that the evidence is still unclear and to proceed cautiously

HPV testing: Canada

- Ontario
 - Primary HPV screening is recommended and implementation is being considered.
 - May 2012 cervical screening guideline, initiated by the Ontario Cervical Screening Program in conjunction with the Program in Evidence-based Care, an initiative of Cancer Care Ontario.
 - For the interim, cytology recommendations are in place including an additional HPV testing (triage) as an optional test for women 30 years and older with certain abnormal Pap test results.
- Alberta, Quebec and NWT recommend triage testing

HPV testing: International

- Australia and Scotland: No recommendation on HPV testing
- US Task Force on Preventive Health Care (USPSTF)
 - For women ages 30 to 65 years who want to lengthen the screening interval, screening with a combination of cytology and human papillomavirus (HPV) testing every 5 years (co-testing with Pap)
 - Needs further evaluation in long-term trials
 - Whitlock et al. *Ann Int Med* 2011; 155:687-97
- England: Triage testing for 25 years and older.
- Netherlands: recommendation for primary HPV testing, but as a triage test if cytology is used.

Considerations for implementation of recommendations (1)

- Emphasis should be placed on strong vs. weak recommendations

Women who:

- place relatively higher value on avoiding cervical cancer and
- relatively lower value on potential harms/benefits

Are more likely to choose screening

- There should be increased/decreased screening by risk profile.
- Values, preferences and beliefs
 - Should be discussed in context of potential benefits/harms of screening process
 - Clinicians should help patient make a decision consistent with her values, preferences and risk exposure

Considerations for implementation of recommendations (2)

- Current recommendations vary by P/T. Most currently begin screening at age 21, cease at age 70, and have a 1-3 year screening interval.
 - Some P/T have recently updated their guidelines
 - Some P/T make recommendations on HPV testing

Screening for Cervical Cancer

**GUIDELINE COMPARISON:
International**

CTFPHC vs. International Guidelines (1)

Organization	<20 years	20-24 years	25-29 years	30-69 years	70+ years	HPV testing*
Task Force 2012 Canada*	Recommend against routine screening	Recommend against routine screening	Recommend routine screening every three years with cervical cytology	Recommend routine screening every three years with cervical cytology	Recommend routine screening every three years with cervical cytology if inadequately screened. Otherwise screening may cease.	No recommendation made. Will revisit the issue of HPV testing as new data becomes available.
Previous Task Force (1994) Canada	Annual screening with cervical cytology following initiation of sexual activity or at age 18	After 2 normal Pap tests, screening then recommended every three years to age 69. Frequency of screening may be increased in the presence of risk factors			Screening not recommended	Not applicable
USPSTF 2012 United States	Recommend against routine screening under the age of 21	Recommend against routine screening under the age of 21 Recommend screening for cervical cancer in women ages 21 to 65 years with Pap test every 3 years Recommend against screening for cervical cancer in women older than age 65 years who have had adequate prior screening and are not otherwise at high risk for cervical cancer			Recommend against screening for cervical cancer in women older than age 65 years who have had adequate prior screening and are not otherwise at high risk for cervical cancer	For women ages 30 to 65 years who want to lengthen the screening interval, screening with a combination of cytology and human papillomavirus (HPV) testing every 5 years (co-testing)

* Recommendations for primary (HPV testing alone), co-testing (with Pap test), or triage/reflex testing (after abnormal Pap test) were considered

CTFPHC vs. International Guidelines (2)

Organization	<20 years	20-24 years	25-29 years	30-69 years	70+ years	HPV testing*
Australian Government Australia (May 2011)	First Pap test around age 18 to 20, or a year or two after first having sex, whichever is the later	Regular Pap tests recommended every two years			Practitioner may advise that it is safe to stop having Pap tests if previous tests have been normal	No recommendation made
NHS Cervical Screening Program England (August 2011)	Not invited to screen	Not invited to screen	Women aged 25-49 invited to screen every three years with cervical cytology Women aged 50-64 invited to screen every 5 years with cervical cytology Women aged 65+ screened only if not screened since age 50 or have had recent abnormal tests	Women aged 65+ screened only if not screened since age 50 or have had recent abnormal tests	Additional (trriage) HPV testing is recommended for women 25 years and older with abnormal Pap test results in some circumstances	
Health Council of the Netherlands Netherlands (May 2011)	Not invited to screen	Not invited to screen	Not invited to screen	Women aged 30-40 invited to screen every 5 years. Women aged 50-60 invited to screen every 10 years. (Women would be tested at the ages of 30, 35, 40, 50 and 60)	Not invited to screen	Recommendation that HPV testing should replace cytology as the primary screening method. If cytology testing, additional (trriage) HPV testing is recommended for women 30 years and older with abnormal Pap test results in some circumstances

* Recommendations for primary (HPV testing alone), co-testing (with Pap test), or triage/reflex testing (after abnormal Pap test) were considered

CTFPHC vs. International Guidelines (3)

Organization	<20 years	20-24 years	25-29 years	30-69 years	70+ years	HPV testing*
National Cancer Screening Service Ireland (2011)	Not invited to screen	Not invited to screen	Women aged 25 to 44 invited to screen every 3 years. Women aged 45 to 60 invited every 5 years. Regardless of the age of a woman when she has her first screen, she needs to have two normal results - 3 years apart, before moving to a 5 year screening interval.		Not invited to screen	No recommendation made
NHS Scotland Scotland (2010)	Not invited to screen	Women aged 20 – 60 invited to screen every 3 years.			Not invited to screen	No recommendation made

*Recommendations for primary (HPV testing alone), co-testing (with Pap test), or triage/reflex testing (after abnormal Pap test) were considered

Screening for Cervical Cancer

CONCLUSIONS

Conclusions

- This guideline encourages practitioners to help women understand the potential benefits and harms of cervical cancer screening and make informed decisions in collaboration with their health practitioner.
- Recommendations are in line with those of several other countries.
- The greatest reduction in cervical cancer will be achieved by screening eligible women who have not been previously screened, not by screening women earlier or more often.

Providers role

- Must understand guidelines and reasons behind
- Must explain to patients, especially controversies
- Controversial components:
 - When to start
 - Interval
 - Stopping
- Help women to make their own decisions
- Provide service, and assist reminder process
- Promote service to underserved groups
 - Where greatest gains possible

Who should be screened for Cervical Cancer?

The Canadian Task Force on Preventive Health Care (CTFPHC) updated its recommendations on cervical cancer screening to ensure that women receive the greatest benefit from screening, while reducing inconvenience, discomfort and unnecessary testing. **Clinicians must recognize that the appropriateness of the recommendations will vary according to the individual needs, values and preferences of their patients.**

These recommendations do NOT apply to women who have:

- Never been sexually active
- Had a full hysterectomy for a benign disease
- Had a previous abnormal Pap test
- A weakened immune system

Age	Recommendation	Explanation	Grading of Recommendations*
19 or younger	Do not routinely screen	Even without screening, the incidence of invasive cervical cancer is very rare (0.3 per 100,000 per year). If screened, 10% of women in this age group will have an abnormal Pap test, resulting in additional unnecessary tests (e.g. colposcopy, biopsy).	Strong recommendation; high quality evidence
20-24	Do not routinely screen	Even without screening, the incidence of invasive cervical cancer is about 3 per 100,000 per year. If screened, 10% of women in this age group will have an abnormal Pap test, resulting in additional unnecessary tests (e.g. colposcopy, biopsy).	Weak recommendation; moderate quality evidence
25-29	Routine screening every 3 years	The incidence of invasive cervical cancer increases after age 25. Without screening, the incidence is about 9 per 100,000 per year. Benefits of screening may begin to outweigh the harms (i.e. additional unnecessary tests, such as colposcopy and biopsy).	Weak recommendation; moderate quality evidence
30-69	Routine screening every 3 years	After age 30, the incidence of invasive cervical cancer increases significantly up to 35 per 100,000 per year without screening, while rates of abnormal Pap tests decline. Benefits of screening outweigh the harms (i.e. additional unnecessary tests, such as colposcopy and biopsy).	Strong recommendation; high quality evidence
70 or older	Cease routine screening only if the last 3 Pap tests in the last 10 years were negative	There appears to be minimal additional benefit of continuing screening if Pap test results have been consistently negative.	Weak recommendation; low quality evidence

*Recommendations are graded according to the Grading of Recommendations Assessment, Development and Evaluation (GRADE) system.

For more information on GRADE, visit the CTFPHC website: www.canadiantaskforce.ca



Frequently Asked Questions about Cervical Cancer Screening

Why did the Canadian Task Force on Preventive Health Care (CTFPHC) develop new cervical cancer screening guidelines?

The previous CTFPHC guidelines on cervical cancer screening were developed in 1994. With the introduction of new tests, updated research, and a Human Papillomavirus (HPV) vaccine, cervical cancer screening has become an area of interest for many women and their health care providers.

Why is the CTFPHC increasing the age at which screening is recommended to 25?

The CTFPHC found no benefit for screening women under the age of 20 since the disease is extremely rare in this age group. However, young women are at an increased risk of high-grade abnormalities compared to older women, and are therefore more likely to experience unnecessary follow-up tests (e.g. colposcopy and biopsy). The vast majority of these “high-grade” abnormalities are caused by HPV infections that will regress due to active immune responses. As a result, the CTFPHC recommends not screening women under the age of 20.

For women 20-24 years of age, cervical cancer is rare and there is little, if any, reduction in mortality rates from screening. However, 10% of Pap tests in this group are abnormal, leading to further investigation and treatment. Therefore, the CTFPHC makes a weak recommendation not to screen women in this age cohort.

The prevalence of high-grade abnormalities steadily declines with age while cervical cancer incidence rises. Therefore, the proportion of abnormal Pap test results that may progress to cervical cancer is greater in women over the age of 25. The CTFPHC makes a weak recommendation for women 25-29 years of age and strong recommendation for women older than 30 years to screen for cervical cancer every 3 years.

Why does the CTFPHC recommend a screening schedule of every three years?

Screening every three years offers about 80% to 90% protection against cervical cancer. Screening more frequently (e.g. annually) offers little additional benefit and increases the risk of detecting high-grade abnormalities that will likely regress without any treatment, yet patients will undergo additional follow-up testing and experience greater potential harms. By establishing a screening schedule every 3 years, women balance the benefits of cervical cancer screening with the potential harms.

Some screening techniques for cervical cancer include HPV testing in combination with Pap tests. Why does the CTFPHC not include recommendations for this test?

Although the role of HPV in cervical cancer is well established, there is limited (though increasing) evidence available for HPV testing as a screening method. As a result, the CTFPHC has refrained from making a recommendation about HPV testing until more data are available. Given that this is a rapidly evolving field, the CTFPHC will revisit the cervical cancer recommendations in a few years as more research becomes available.

Will women forget to come in for their annual checkups if they do not need to attend for an annual Pap test?

Women will have their preventive health care needs best served if they attend for periodic health assessments at intervals that are based on the specific needs for their risk profile. The recommended interval should be discussed with each woman individually.

Many of my patients have been vaccinated against HPV. Why is the CTFPHC not providing different recommendations for these women?

Because the HPV vaccine was only recently introduced, there is currently insufficient evidence to support providing alternative screening recommendations for HPV-vaccinated women. The long-term effectiveness of the HPV vaccine in preventing cervical cancer will not be known for many years. Therefore, the CTFPHC currently recommends that HPV-vaccinated women commence regular Pap testing every 3 years from the age of 25.

Did cost effectiveness play any role in the development of the CTFPHC recommendations?

No, cost-effectiveness was not factored into the development of the CTFPHC recommendations.

The current recommendations were made specifically to:

- Bring Canadian practices in line with global best practices;
- Provide current and clear public health information to target audiences about cervical cancer screening; and
- Balance the demonstrated benefits of screening with its potential harms in women of different ages.



Why are Provincial/Territorial recommendations different than those found in the guideline?

The CTFPHC examined the latest available evidence for cervical cancer screening and has made recommendations to provide guidance for women and their health care providers around the optimal use and frequency of screening, based on that science.

Every province/territory has its own set of guidelines. Provincial guidelines are reviewed and updated periodically in all jurisdictions. Most provinces have been moving towards a later start age and longer screening interval in the past few years. It will be up to the individual provinces/territories to decide if and how the guideline changes their approach to screening. The CTFPHC guideline is there to help clarify the discussion on cervical cancer screening and assist in the decision making process.

Are there special recommendations for specific groups, such as Aboriginal women?

The CTFPHC searched for evidence to inform recommendations for screening Aboriginal women. They examined whether these women have a higher risk of invasive cervical cancer or a greater risk of harms (of screening), and if so, whether there was evidence that screening policies should be different for them. No evidence was found to support the need for differential screening in Aboriginal women (i.e., more or less frequent screening or different ages of starting/stopping).

The important issue is to ensure that screening is used by Aboriginal women and other groups who may have reduced access to health care, which may require creative and culturally sensitive strategies.

Who are the CTFPHC?

The CTFPHC is an independent panel of clinicians and methodologists that develop clinical practice guidelines for preventive health. Guidelines are based on a rigorous, systematic review of the most current available scientific evidence. These guidelines are aimed at primary care providers and other health care professionals, developers of preventive programs, policy-makers, and Canadian citizens.

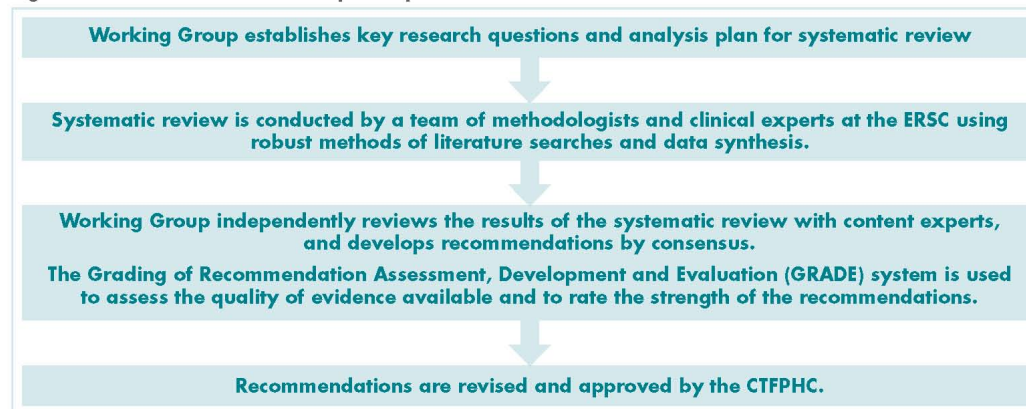
How were the cervical cancer screening recommendations created?

The cervical cancer screening recommendations were developed by a working group composed of six CTFPHC members, two members of the Pan-Canadian Cervical Screening Initiative, and scientific staff from the Public Health Agency of Canada. They were based on a systematic review conducted by members of the McMaster University Evidence Review and Synthesis Center (ERSC), and a new Canadian epidemiological analysis conducted for the working group.

The working group engaged in a standard and rigorous process utilized by the CTFPHC for all guideline development* (Figure 1). The guidelines underwent internal and external peer review by experts in the field, and by stakeholders and partners.

* A complete description of recommendation development methods can be found on the CTFPHC website: <http://canadiantaskforce.ca/methods/methods-manual/>

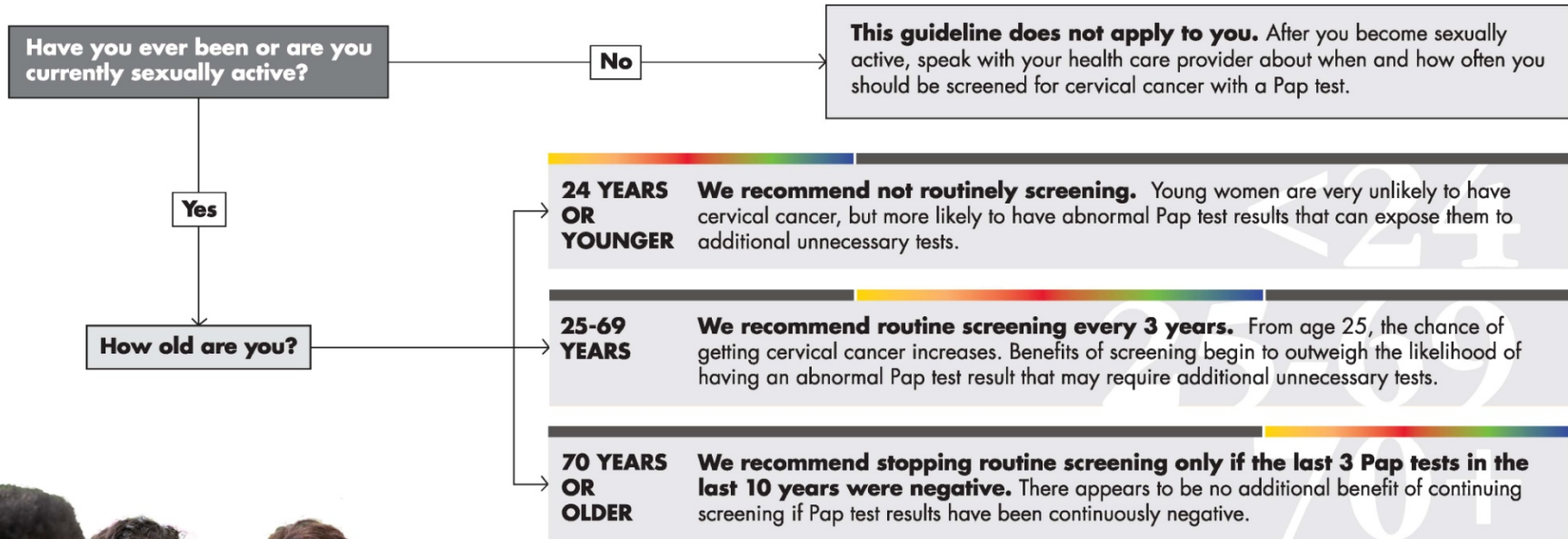
Figure 1. CTFPHC Guideline development process



Should you be screened for Cervical Cancer?

Cervical cancer is a type of cancer that starts in the cervix, which is the lower part of the uterus. Screening for cervical cancer is done with a Pap test to identify abnormal changes in the cells of your cervix caused by viruses such as the Human Papillomavirus (HPV). In a few women, these abnormal cells develop into cancer. Cervical cancer screening can lead to early treatment, which can prevent the abnormal cells from developing into cancer, or can cure early cancer with simple treatment.

The Canadian Task Force on Preventive Health Care (CTFPHC) updated its recommendations on cervical cancer screening to ensure that women receive the greatest benefit from screening while reducing inconvenience, discomfort and unnecessary testing. The figure below can help you make an informed decision about when to screen for cervical cancer with a Pap test. For women who have received HPV vaccinations, we recommend the same screening schedule but talk to your health care provider further about HPV vaccination and cervical cancer risk. **Please note that these recommendations do NOT apply to women who have never been sexually active, have had a full hysterectomy for a benign (i.e. non-cancerous) disease, who have had a previous abnormal Pap test, and/or have a weakened immune system.**



Additional information on cervical cancer screening with a Pap test and the recommendations is provided on the other side of this page.



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Knowing the Facts about Cervical Cancer Screening

The Canadian Task Force on Preventive Health Care (CTFPHC) recommends that women between the ages of 25 and 69 be screened for cervical cancer with a Pap test every 3 years.



I am a woman between the ages of 25 and 69. Why should I be screened every 3 years?

Among women **who do not screen**, the lifetime risk of dying from cervical cancer is about **1 in 100**

Among women **who screen every 3 years**, the lifetime risk of dying from cervical cancer is about **1 in 500**

Among women **who screen annually**, the lifetime risk of dying from cervical cancer is about **1 in 588**

After the age of 25, the likelihood of being diagnosed with cervical cancer increases dramatically. 86% of women who get cervical cancer are between the ages of 25 and 69. Screening with a Pap test improves a woman's chances of survival from cervical cancer. However, screening more often than every 3 years may not add any additional benefits and may expose women to more frequent "false positive" or abnormal Pap test results. About 3% of women over the age of 30 will have an abnormal Pap test result, which may lead to additional unnecessary tests (see "What else should I know about cervical cancer screening?" below).

I am a woman 24 years of age or younger. Should I be screened for cervical cancer?

About **1%** of women who get cervical cancer are 24 years of age or younger

Women 20 to 24 years of age have a **less than 1 in 500 000** chance of dying from cervical cancer

Because there is such a small risk of being diagnosed with and dying from cervical cancer, young women are very unlikely to benefit from cervical cancer screening. Additionally, about 10% of young women have an abnormal Pap test result. This makes young women 24 years of age or younger more likely than older women to be exposed to additional testing that may be unnecessary (see "What else should I know about cervical cancer screening?" below).

What else should I know about cervical cancer screening?

Sometimes a Pap test shows abnormal cells in the cervix. An abnormal test result does not mean you have cervical cancer, but will need follow-up with either a repeat Pap test or additional follow-up tests such as colposcopy (examination of cervix with a magnifying instrument) and/or biopsies (removing a sample of cells with an instrument in minor surgery) to check under the microscope. Waiting for the outcome of an abnormal test result may cause anxiety and/or stress.

Be informed! Talk to your health care provider about when and how often you should be screened for cervical cancer.



Frequently Asked Questions about Cervical Cancer Screening

What is cervical cancer and how is it caused?

Cervical cancer is a type of cancer that affects the cervix (located at the opening of the uterus), and is caused by an infection with certain types of Human Papillomavirus (HPV). An HPV infection is transmitted through intimate sexual contact and causes cells to change in the cervix. Cervical cancer occurs when these cells do not change back to normal and undergo changes to become cancers over a longer period of time. Most women with an HPV infection do not develop cervical cancer because the cells change back to normal within a few years.

What is a Pap test?

Screening for cervical cancer is done with a Pap test to identify abnormal changes in the cells of the cervix. An instrument, called a speculum, is inserted in the vagina so the cervix can be seen. Cells are taken from the cervix with a spatula and are sent to a lab to be examined under a microscope. Pap tests detect abnormal cells in the cervix that could potentially lead to cervical cancer. This test allows for early detection and treatment of these abnormalities, which will prevent cancer from developing. Cervical cancer may also be found early and treated. The test is not used to detect other cancers in the reproductive organs (e.g. uterus) or find sexually transmitted diseases like chlamydia, gonorrhea, or human immunodeficiency virus (HIV).

What is an abnormal Pap test result?

Sometimes cells detected by a Pap test look different from normal cells when viewed under a microscope. These abnormal cells are usually caused by HPV infection. It is very common for any person, male or female, to become infected with HPV in their lifetime. Usually the infection is overcome by our immune system, and the cells become normal again. However, if abnormal cells are detected, they require follow-up tests to understand why the cells changed in the first place. After an abnormal Pap test result, women may need a colposcopy, which involves using a magnifying instrument to see the cervix in more detail. Women may also have a biopsy, which involves taking a tissue sample from the cervix for further examination in a laboratory. Most women who have an abnormal Pap test result and who have proper follow-up tests do not get cervical cancer.

Why is the Canadian Task Force on Preventive Health Care (CTFPHC) recommending screening every 3 years?

Regular screening can reduce the chance of getting cervical cancer by over 80%. However, screening more often than every 3 years leads to a greater chance of having a “false positive” result—i.e. the Pap test result is abnormal but the cells are only infected with a virus, not cancer cells. A false positive result requires additional follow-up testing and can expose women to the harms of these tests. Getting a Pap test every 3 years balances the benefits and potential harms of screening. Screening more frequently offers little additional benefit but can increase potential harms.

Why is the CTFPHC not providing different recommendations for women who are vaccinated against HPV?

While there is a population of younger women who have had an HPV vaccination, this vaccine only protects against the two main types of HPV, which cause about 70% of cervical cancers. Because it was introduced recently, there is currently not enough evidence for providing different recommendations for HPV-vaccinated women. We will only be sure of the long-term effectiveness of the vaccines on cervical cancer in approximately 20 years, when we can measure how much long-term immunity these women have against HPV. For now, we recommend that HPV-vaccinated women should start screening like others, every three years from the age of 25.

Why is the CTFPHC increasing the age of screening to 25?

When women start cervical cancer screening from a young age, Pap tests have a very small chance of detecting anything important, but a high chance of having a “false positive”. These results lead to unnecessary follow-up tests such as colposcopy and/or biopsy, which are associated with certain harms. Colposcopy can cause anxiety and/or stress, and biopsy may cause bleeding or discharge for up to a few weeks. Given the increased understanding of the harms and benefits of cervical cancer screening, more Canadian provinces and international countries are choosing to begin screening at a later age.



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Questions & Answers

Extra Slides

Screening for Cervical Cancer

**GUIDELINE & PROGRAM
COMPARISON: Canada**

CTFPHC vs Provincial/Territorial Programs (1)

Organization	<20 years	20-24 years	25-29 years	30-69 years	70+ years	HPV Testing*	Differences Task Force vs P/T
CTFPHC 2012 Canada*	Recommend against routine screening	Recommend against routine screening	Recommend routine screening every 3 years	Recommend routine screening every 3 years	Recommend routine screening every 3 years if there was no previous screening. Otherwise stop screening.	No recommendation made	
British Columbia (June 2010 guideline)	Initiation of routine screening recommended 3 years after first sexual contact	Recommend initiation of routine screening at age 21. Women not sexually active by age 21 should delay screening until sexually active. Screen every 12 months until there are 3 consecutive negative results, then screen every 24 months.			Discontinue if 3 negative tests in past 10 years. If inadequately screened – conduct 3 annual pap tests. If results are negative screening may stop.	No recommendation made. Randomized control trial began in 2007 to evaluate HPV testing as primary screening tool (FOCAL study).	Screening start: BC - 3 yrs after first sexual contact, or age 21 CTFPHC – at age 25 How often to screen: BC - annually for first 3 years. If tests are normal, then every 2 years. CTFPHC - every 3 yrs Screening cessation: No difference

Draft tables: Pending review by provincial/territorial representatives on the Pan-Canadian Cervical Screening Initiative (partner in the Task Force cervical cancer screening guideline).

*Recommendations for primary (HPV testing alone), co-testing (with Pap test), or triage/reflex testing (after abnormal Pap test) were considered

CTFPHC vs Provincial/Territorial Programs (2)

Organization	<20 years	20-24 years	25-29 years	30-69 years	70+ years	HPV Testing*	Differences Task Force vs P/T
Alberta (November 2011 guideline)	Do not recommend routine screening	Recommend initiation of routine screening at age 21 or 3 years after first intimate sexual activity, whichever occurs later. Within 5 years screen with 3 negative Pap tests at least 12 months apart then extend screening interval to every 3 years.			Women who have never been screened, screen with 3 annual Pap tests. If results are negative and satisfactory, discontinue screening. If last 3 tests done within the past 10 years were normal, discontinue screening.	Additional (triage) HPV testing is recommended for women 30 years and older with abnormal Pap test results in some circumstances.	Screening start: AB – at age 21 CTFPHC – at age 25 yrs How often to screen: AB - 3 normal results within 5 years then every 3 yrs CTFPHC - every 3 years Screening cessation: No difference.
Saskatchewan (January 2012 guideline)	Do not recommend routine screening	Recommend initiation of routine screening at age 21 or 3 years after first intimate sexual activity, whichever occurs later. Screen every 2 years until 3 consecutive normal results then extend screening to every 3 years.			Women who have never been screened, screen with 3 annual Pap tests. If results are negative and satisfactory, discontinue screening. If last 3 tests done within the past 10 years were normal, discontinue screening.	No recommendation made	Screening start: SK – at age 21 CTFPHC – at age 25 yrs How often to screen: SK - every 2 yrs until 3 normal then every 3 yrs CTFPHC - every 3 years Screening cessation: No difference

Draft tables: Pending review by provincial/territorial representatives on the Pan-Canadian Cervical Screening Initiative (partner in the Task Force cervical cancer screening guideline).

*Recommendations for primary (HPV testing alone), co-testing (with Pap test), or triage/reflex testing (after abnormal Pap test) were considered

CTFPHC vs Provincial/Territorial Programs (3)

Organization	<20 years	20-24 years	25-29 years	30-69 years	70+ years	HPV Testing*	Differences Task Force vs P/T
Manitoba (May 2012 guideline)	Recommend screening initiated 3 years after onset of sexual activity regardless of age. Screen every 2 years.				Cessation of screening at age 70 with history of 3 negative pap test results within the previous 10 years and no change in partner.	No recommendation made	<p>Screening start: MB - 3 yrs after first sexual contact CTFPHC - age 25</p> <p>How often to screen: MB - every 2 yrs CTFPHC - every 3 years</p> <p>Screening cessation: No differences</p>
Ontario (May 2012 guideline)	Do not recommend routine screening	Recommend initiation of routine screening at age 21. Screen every 3 years.			Cessation of screening at age 70 with history of 3 negative pap test results within the previous 10 years.	Additional HPV testing (triage) is an optional test for women 30 years and older with abnormal Pap test results in some circumstances. Primary HPV screening with cytology triage is recommended and implementation is being considered.	<p>Screening start: ON – at age 21 CTFPHC – at age 25 yrs</p> <p>How often to screen: No differences</p> <p>Screening cessation: No differences</p>

CTFPHC vs Provincial/Territorial Programs (4)

Organization	<20 years	20-24 years	25-29 years	30-69 years	70+ years	HPV Testing*	Differences Task Force vs P/T
New Brunswick (June 2011 guideline)	Do not recommend routine screening	Recommend initiation of routine screening at age 21 or 3 years after first intimate sexual activity, whichever occurs later. Screen annually until there are 3 consecutive negative results, then screen every 24 - 36 months.			Cessation of screening at age 70 with history of adequate negative pap test results history in the previous 10 years. Women who have never been screened, screen with 3 annual Pap tests. If results are negative and satisfactory, discontinue screening.	Where available, additional HPV testing (triage) is an optional test for women 30 years and older with abnormal Pap test results in some circumstances. Recognize role of HPV testing, but advise evidence is still not strong enough to recommend it as the optimal primary screening tool.	Screening start: NB – at age 21 CTFPHC – at age 25 yrs How often to screen: NB - annually until 3 normal then every 3 yrs CTFPHC - every 3 yrs Screening cessation: NB - cease if adequate normal test results in past 10 years. CTFPHC – screen every 3 yrs until 3 normal pap tests then stop screening
Quebec (June 2011 guideline)	Do not recommend routine screening	Recommend initiation of routine screening at age 21. Screening is recommended every 2 to 3 years.			Among women who have had screening tests regularly, screening may cease at the age of 65 if the results of the last 2 tests conducted in the previous 10 years were negative.	Additional (triage) HPV testing is recommended for women 30 years and older with abnormal Pap test results in some circumstances.	Screening start: QC – at age 21 CTFPHC – at age 25 yrs How often to screen: QC: every 2-3 years CTFPHC: every 3 years Screening cessation: QC - Stop screening at age 65 yrs CTFPHC – stop screening at 70 yrs

CTFPHC vs Provincial/Territorial Programs (5)

Organization	<20 years	20-24 years	25-29 years	30-69 years	70+ years	HPV Testing*	Differences Task Force vs P/T
Nova Scotia (2009 guideline)	Do not recommend routine screening	<p>Cervical cytology screening should be initiated within 3 years of first vaginal sexual activity or at age 21.</p> <p>Screen every 12 months until there are 3 consecutive negative results, then screen every 2 years.</p>			Screening may be discontinued after the age of 75 ONLY if there is an adequate negative screening history in the previous ten years (i.e. 3 or more negative tests).	No recommendation made	<p>Screening start: NS - 3 yrs after first sexual contact CTFPHC - age 25</p> <p>How often to screen: NS - annually until 3 normal then every 2 yrs CTFPHC - every 3 yrs</p> <p>Screening cessation: NS - Stop screening at age 75 yrs CTFPHC – stop screening at 70 yrs</p>
Prince Edward Island (current Health PEI website) Guidelines to be reviewed in 2013	<p>Recommend initiation of routine screening at age 18 or as soon as sexually active.</p> <p>Screen every 2 years until age 69 years.</p>				Screening may be discontinued at age 70 years.	No recommendation made	<p>Screening start: PE – 18 years CTFPHC - age 25</p> <p>How often to screen: PE – every 2 yrs CTFPHC - every 3 yrs</p> <p>Screening Cessation: PE – discontinued at 70 years. CTFPHC – discontinued at 70 years if 3 negative tests in past 10 years.</p>

CTFPHC vs Provincial/Territorial Programs (6)

Organization	<20 years	20-24 years	25-29 years	30-69 years	70+ years	HPV Testing*	Differences Task Force vs P/T
Newfoundland and Labrador (2011 guideline)	Do not recommend routine screening	Recommend initiation of routine screening at age 20, with annual screening until 3 consecutive negative Pap tests are obtained. Then extend interval to 3 years.			Screening may discontinue if there are 3 negative Pap tests within last 10 years. Women with little/no screening history should have 3 consecutive normal tests before cessation.	Additional (triage) HPV testing is recommended for women 30 years and older with abnormal Pap test results in some circumstances.	Screening start: NL – 20 years CTFPHC - age 25 How often to screen: NL – annual, then every 3 years CTFPHC - every 3 yrs Screening Cessation: No difference
Northwest Territories (March 2010 guideline)	Recommend initiation of routine screening 3 years after start of intimate sexual activity, or at age 21 years, whichever is earlier. Screen every 1 to 2 years (frequency depends on previous test results).				Women age 69 and older should cease screening if 3 or more normal smears in the last ten years.	In some circumstances, when there is an abnormal Pap test result, an additional HPV test is recommended for women 21-29 years (co-testing with additional Pap test), and for women 30 years and older (triage).	Screening start: NT – 3 years after first sexual activity, or age 21 (whichever is first). CTFPHC - age 25 How often to screen: NT – every 1-2 years CTFPHC - every 3 yrs Screening Cessation: NT – stop screening at 69 years CTFPHC – stop screening at 70 years
Yukon Territory	No guidelines found. The Pan-Canadian Cervical Cancer Screening Initiative “Cervical Cancer Screening in Canada—Monitoring and Program Performance” report (December 2011) notes the Yukon follows BC guidelines.						
Nunavut	No guidelines found.						