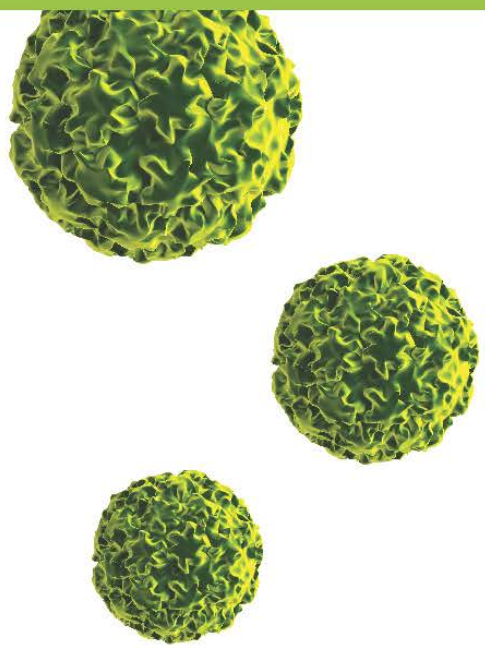
Counselling Patients About HPV Test Results

Transmission, Screening / Testing & Vaccination



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Abbreviations Used in This Document

AGW - Anogenital warts

ASC-US - Atypical Squamous Cells of Undetermined Significance

CIN - Cervical intraepithelial neoplasia

HR-HPV - High-risk Human Papillomavirus (high risk genotype or 'type' of the human papillomavirus for neoplasia)

HPV - Human papillomavirus

HSIL - High-grade squamous intraepithelial lesion

ICID - International Centre for Infectious Diseases

INSPQ - Institut national de santé publique du Québec

LR-HPV - Low-risk Human Papillomavirus (low risk genotype or 'type' of the human papillomavirus for neoplasia)

LSIL - Low grade squamous intraepithelial lesion

NILM – Negative for Intraepithelial Lesion or Malignancy

Pap Test - Papanicolaou cervical cancer screening test

Introduction

The science of screening for cervical cancer has evolved for almost one hundred years since Papanicolaou's (Pap) original research. Screening programs have varied around the world, reflecting changes in science, technology, epidemiology, and policy. Within Canada, under the jurisdiction of the provinces and territories, there has been a variety of programs, which continue to undergo periodic change. There are differences across Canada in schedules for screening (e.g. age of first screen, screening intervals, and algorithms for follow-up of abnormal test results). These are often based on reference publications or guidelines established in Canada and other countries. In addition to screening schedule differences, there are now differences in test methods: conventional cytology on glass slide (Pap smear), liquid-based cytology (Pap LBC), and, most recently, tests for the presence of human papillomavirus (HPV) - the cause of most, if not all cervical cancers. There have also been developments in the interpretation of test results and the options for preventive or curative action. Most recently, the past decade has seen the introduction of the HPV vaccine, initially for females, and now, increasingly, for males.

These adjustments and the variations of screening programs, which have increasingly included HPV testing, have changed the focus of the screening from looking for cellular changes to finding the presence of a high-risk HPV infection. This has produced many new clinical scenarios and case presentations, resulting in many new questions for patients and care providers alike. HPV testing introduces a new aspect of counselling since HPV testing is testing for a sexually transmitted infection, which was not the case when screening patients for pre-cancerous changes. This resource has been produced to meet the need for relevant information to answer questions about HPV testing and the interpretation and response to test results.

The experts who have contributed to this resource have provided relevant facts and opinions that can be used by family physicians and other primary care providers to inform and advise their patients about HPV testing and/or test results with regard to prevention, diagnosis and treatment in a variety of clinical situations. It is hoped that the information contained in this resource serves a useful purpose as a non-prescriptive reference before, during or after a discussion with patients regarding HPV testing. Although this resource is intended for health care providers, some of the explanations in the scenarios use wording for communicating with the patient. It is not intended to replace or to contradict national or provincial guidelines or programs. Nor is it intended to promote any type of product or program.

ICID is pleased to offer this resource to health care professionals across Canada. ICID is very appreciative of the involvement of the expert contributors, advisors, reviewers and sponsors that enabled this resource to be produced. ICID is particularly grateful to the authors of the sections which were reviewed and edited through a team effort. Each author has taken responsibility for the content of their sections. ICID is accountable for the overall document.

We hope that you find this booklet useful in your work.

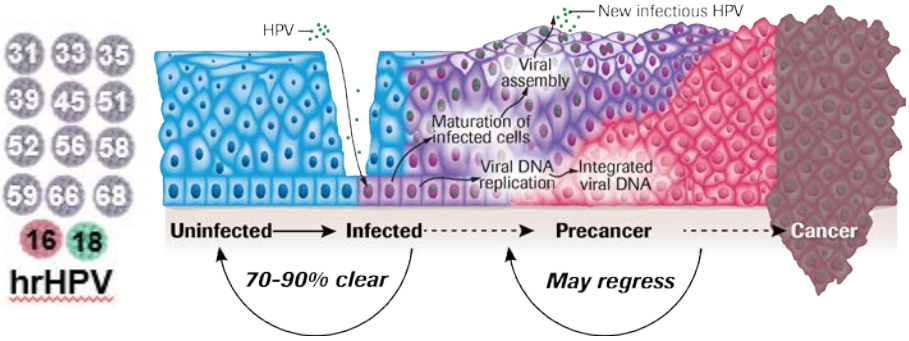
HPV and Cervical Cancer Screening

General Information

Cervical Cancer Screening in Canada

Decreases in cervical cancer incidence and mortality over the past several decades can largely be attributed to the availability of programmatic cervical cancer screening. Cervical cancer is almost entirely preventable through regular screening, the objectives of which are to identify pre-cancerous lesions and subsequently treat them to prevent further progression to cervical cancer. Most cases of invasive cervical cancer occur in Canadian women who have never been screened or who have had long intervals between screens[1]. Until recently, the only tool available for cervical cancer screening has been the Pap smear (cytology testing).

Natural history of cervical cancer



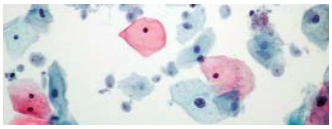
It is well established that persistent infection with one of approximately 14 high-risk (HR) genotypes of the human papillomavirus (HPV) is necessary for the development of cervical cancer[2]. There are approximately 130 HPV genotypes, of which about 40 infect the anogenital tract in both men and women. HPV genotypes are classified as either low-risk (LR) or high-risk (HR). LR HPV types are associated with anogenital warts (AGW) and low-grade intraepithelial lesions. HR- HPV genotypes are associated with anogenital cancers and their immediate precursor, high-grade intraepithelial lesion[3]. High-risk HPV types 16 and 18 contribute to approximately 25% of low grade lesions of the cervix (CIN1), 65% of high grade lesions (CIN2&3), and 70% of invasive cervical cancer[4,] with the remaining HR-HPV types being associated with approximately 30% of invasive cervical cancer cases. Overall, HPV types covered by the nonavalent HPV vaccine (types 16, 18, 31, 33, 45, 52 and 58) cause 87.1% of invasive cervical cancers in Canada. For the purposes of this document, when referring to HPV testing or HPV associated with cervical cancer, we are referring to HR-HPV infections.

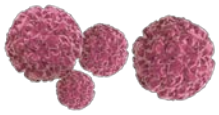
HPV is the most common sexually transmitted infection in the world and most sexually active individuals will have an HPV infection at some point in their lives[5]. It is most easily transmitted via skin to skin sexual activity, mostly through vaginal or anal intercourse, but it can also be transmitted through oral sex and mutual masturbation [Section 2: Ref 3-11]. Transmission is more likely to happen when HPV viral load is higher or a lesion/wart is present. Condom use for vaginal and anal intercourse offers some protection, albeit incomplete, against the initial transmission of HPV as well as re-infection back-and-forth between partners. There is also some evidence that, among condom users, HPV infection clears more quickly [Section 2: Ref 12-15] and cervical intraepithelial neoplasia is less likely to recur [Section 2: Ref 16].

HPV is highly prevalent in women under 30 years of age. The majority of HPV infections are asymptomatic, and regress spontaneously within about 2 years. Approximately 10-15% of women develop a persistent HPV infection, and it is these women who are at risk for progression to cervical cancer[6].

HPV infects cervical basal membrane cells through micro-abrasions of the cervical epithelium. A transient HPV infection may result in either no visible lesion, or low-grade lesions (such as LSIL on cytology smear or CIN1 histopathology results). These kinds of lesions extend to less than 1/3 of the epithelium and spontaneously regress through cell mediated immunity. A persistent infection with a high-risk HPV genotype is identified when this HPV genotype is detected in consecutive samples over a period of 6 to 12 months. This can result in high-grade intraepithelial lesion (HSIL on cytology smear/CIN2+ on biopsy) involving full thickness of the epithelium. Regression of high-grade lesion is less likely and if not detected and treated, it could lead to invasive cervical cancer[3, 7].

HPV Testing compared to cytology testing:





The Pap test (cytology testing) identifies changes to the cells on the cervix after they have begun to occur. Pap testing has low sensitivity to detect high-grade lesions, with the result that it misses nearly half of cervical high-grade lesions[8], giving false negative results. However, given how long cervical cancer takes to develop, and the fact the cytology testing has been recommended every 2 to 3 years, many cervical pre-cancer cells can be identified through regular screening before they develop into cervical cancer. Although successful at decreasing rates of squamous-cell carcinomas, cytology screening has not had success decreasing rates of adenocarcinoma[9]. The Pap test is not useful for the management of genital warts. Nor is the Pap test useful as a screening test for the prevention of HPV transmission as it cannot detect the virus.

HR HPV testing detects the presence or absence of HR HPV genotypes. Like a Pap test, a sample tested for HPV is obtained from cells collected from the cervix. The sensitivity of HPV testing as an indicator for the presence of high-grade cervical intraepithelial lesions has been estimated at approximately 95%[8]. Randomized trials have demonstrated that a negative HPV test provides greater and longer reassurance that the woman is at a very low risk of developing cervical cancer, and as a result the interval between screens for HPV negative women can be extended in a setting where primary HPV testing is implemented[10]. In addition, HPV testing has been shown to be more effective than cytology testing for the prevention of adenocarcinomas (by detecting precursor lesions)[11].

Although highly sensitive, HPV testing has somewhat lower specificity, as not all HPV infections are predictive of high-grade intraepithelial lesion, or indicative of cervical disease, especially in younger women who are frequently infected transiently by HPV. Transient HPV infections do not cause cancer. When HPV testing is used in primary screening for cervical cancer, HR-HPV positive women should not immediately be referred to colposcopy. Instead, a positive HPV test would ideally be followed by a "triage" test to ensure that only higher risk women are referred for further diagnostics. Triage testing occurs when additional testing (a second test) is performed immediately after HR-HPV positive results are obtained to further stratify higher risk women with positive primary test results. In the case of HR-HPV testing, cytology (either liquid-based or a Pap smear) can be used as a triage test. HR-HPV positive women with abnormal cells of any degree identified by cytology (atypical cells of undetermined significance [ASC-US] or greater) can then be referred to colposcopy to assess the presence of histologically confirmed cervical disease. In other words, the highly sensitive test (HPV test) is conducted first, if HR-HPV is detected, a second, more specific test (for example, cytology) is then performed. Cytology testing is only one option that can be used as the triage test. Other triage testing options are being explored with the use of primary HPV testing. At this time, testing algorithms have not yet been established in Canada.

HPV infection peaks and is high in women under 30 years of age, and starts to rapidly decline after the age of 30[3]. In addition, since most infections in young women are transient[12], it is not recommended that HPV testing be offered to women under the age of 30 (25 in some jurisdictions). However, there is no consensus at this time on the ideal age at which to implement HPV testing. HPV testing in younger women could lead to the identification and treatment of HPV infections that would otherwise have spontaneously regressed. Over-screening and treatment could potentially cause harm due to anxiety and distress and increase the risk of reproductive sequelae due to unnecessary biopsies and endocervical curettage due to transient HPV infection in young women[13, 14].

The HR HPV tests currently approved are for cervical cancer screening only; they are not approved for screening for HPV related cancers in men. In some Canadian jurisdictions, HPV testing has been implemented as triage for women with ASCUS cytology results. Jurisdictions across Canada are in

various stages of planning for implementation of primary HPV testing for cervical cancer screening. It is anticipated that over time, HPV testing will replace Pap testing as the primary tool for screening given the increasing evidence to support the use of HPV testing for cervical cancer prevention.

HPV Vaccination and Cervical Cancer Screening:

A number of HPV vaccines have been approved for use in Canada. HPV vaccines do not contain live viruses, rather, they contain a single HPV protein from the surface of the virus. HPV vaccines do not alter effectiveness of HPV testing, as they detect nucleic acids and not virus-specific proteins[Section 1: Ref 6].

Although HPV vaccination has been available through school based programs in Canada for several years, it is not anticipated that screening programs will see population effects of HPV vaccination on invasive cervical cancers for years to come. Despite the fact that the three HPV vaccines approved for use in Canada protect against the HPV types responsible for most cases of cervical cancer, the vaccines do not protect against all types of HPV. Therefore, it is important that women vaccinated against HPV follow the guidelines for cervical cancer screening established in their regions.

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Objectives and Scenarios

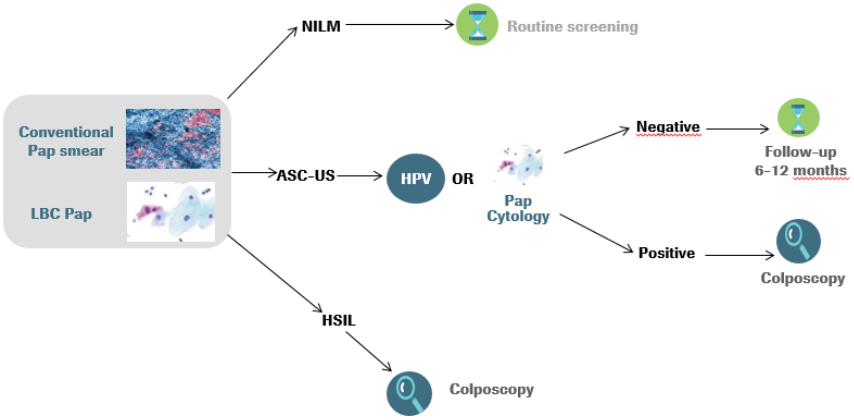
Section 1

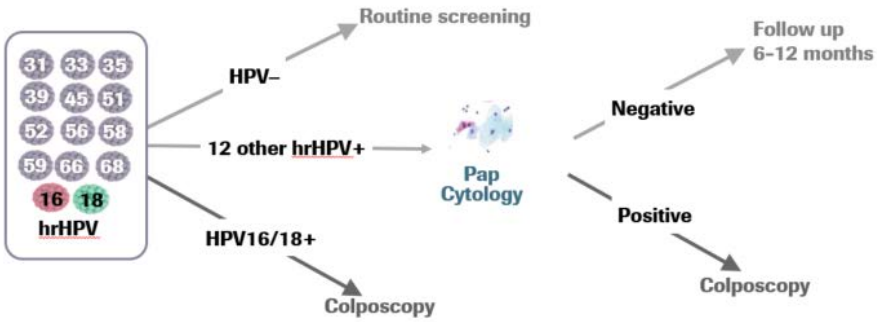
HPV Testing and Screening

Author: Francois Coutlée, MD

Objectives:

1. To understand the clinical meaning of a positive HPV test
2. To delineate the differences between HPV testing and Pap cytology testing
3. To understand the difference between HPV testing for primary screening and HPV testing used in triage in the case of abnormal cytology results





Scenario 1.1: HPV testing in young women

Clinical situation:

A sexually active 22-year-old female attends a medical clinic for a checkup. She has read that HPV is transmitted sexually and causes genital cancer and warts. She also learned that HPV testing is now available. She fears she could be infected with HPV and has cancer or warts. Since she recently completed HPV vaccination, she wonders if HPV testing is preferred for her over a Pap test.

Relevant information which can be shared with the patient:

NOTE: Cervical cancer screening program guidelines and algorithms differ between provinces.

- Pap testing, not HPV testing, is indicated in young women under the age of 30 due to the high rate of transient HPV infections in this age group[9, 13, 14]. Primary HPV testing is not yet available in Canada at the time of this publication. The age at which HPV screening will eventually be done instead of Pap still needs to be determined and will possibly vary from province to province. This age limit will likely be set between ages 25 to 30[1,2,4,5]. (Note: some provinces – and the Canadian Task Force on Preventive Health Care - do not recommend Pap testing under the age of 25). Testing younger women with transient HPV infections will result in unnecessary investigation and treatment with potential reproductive harm.
- Most HPV infections are transient and will be cleared by the body's natural immune system within about 2 years. However, in some cases, an HPV infection persists and can evolve into high-grade cell changes (or intraepithelial lesions) and subsequently to cervical cancer. Transient HPV infections are frequent in many women including young women.
- It is expected that Pap tests will eventually be replaced by HPV testing for older women because of a lower rate of transient HPV infections and lower rate of positive HR-HPV tests in those over the age of 30.
- The currently approved HR-HPV tests are intended to screen for cervical cancer and do not indicate the presence of, or exposure to, genital warts. Genital warts are usually diagnosed upon observation by the health care professional.
- Cervical cancer screening is recommended in vaccinated and unvaccinated women. Available HPV vaccines do not protect against every HPV type, therefore, it is important that women receive cervical cancer screening according to the guidelines in their province.
- Cervical cancer screening results should not influence a woman's decisions to receive the HPV vaccine or not.
- Despite the fact that HPV testing is not recommended in women under 25 (or 30 in some jurisdictions), routine STI/HIV screening is recommended for sexually active women, to screen for other sexually transmitted infections. HPV testing for cervical cancer screening is not part of routine STI screening.

Scenario 1.2: HPV triage for abnormal Pap cytology results

Clinical situation:

A 52-year-old woman has had several normal Pap tests in the past. However, the last Pap test showed an Atypical Squamous Cells of Undetermined Significance (ASC-US) result. A second cervical sample was collected and sent for HPV testing. She is referred to you because the laboratory reported the presence of HR-HPV (high risk HPV virus type that indicates increased risk for the development of neoplasia). She has many questions. What is the meaning of 'high-risk' HPV? Does she have, or will she have, cancer? Why HPV was not detected with the Pap test and why was a second sample required? Since she is in a monogamous relationship, does a positive HPV test mean that her husband has extramarital relationships? How will she be investigated or treated?

Relevant information which can be shared with the patient:

- HPV infection could have been transmitted decades before testing and before the current relationship. Also, exposure to HPV may have occurred without sexual intercourse.
- Since HPV is very common and may persist for many years, it is impossible to determine how and when it was transmitted. Issues on transmission of HPV are further discussed in section 2.
- HPV testing is not required for her partner and the risk of penile cancer is extremely low. In the absence of a wart or lesion, no treatment is available or needed. HPV infection will be cleared in most men by the immune system.
- There is no indication to vaccinate her male partner. The vaccine is indicated in men between 9 to 26 years of age and in men having sex with men $\geq$ 9 years of age.
- 40 types of HPV infect the genital tract but only those at high-risk for cancer are detected in the current diagnostic HR-HPV tests[6]. HR HPV types 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 68 and sometimes 66, are detected in most current HR-HPV tests.
- A cytology test (Pap) is reported to be an ASC-US when the pathologist and cytotechnologist cannot determine if the exfoliated cells collected from the cervix are normal or abnormal. Thus, an ASC-US cytology can be obtained in women without or with actual cervical disease.
- In the conventional cytology test (Pap), cervical cells are immediately put on a slide. These cells fixed on a slide cannot be tested for HPV. Then a new sample needs to be obtained for HPV testing. If the sample is collected in a liquid that preserves cells (liquid cytology), then that sample can be utilized for both cytology and HPV testing. Most Canadian laboratories use conventional cytology, explaining why a second sample was collected in this woman. Had she been tested initially with liquid cytology for her Pap smear, the laboratory could have performed a Pap test followed by HPV testing directly on the first sample. Liquid cytology is more expensive than conventional cytology.
- HR-HPV positive women with any abnormal cervical cell changes (dysplasia) on cytology smears are at higher risk for histologically confirmed cervical high-grade intraepithelial lesion[8].
- High-grade cervical intraepithelial lesions are the immediate precursor lesions to cervical cancer.

- A woman with ASC-US and a positive HR-HPV test should be referred to colposcopy to assess and grade cervical disease[7, 9]. If a high-grade intraepithelial lesion is found at colposcopy, treatment will then be discussed with the patient.
- High-grade cell changes (or intraepithelial lesions) can be treated to reduce risk of progression to cancer. There is no treatment specifically aimed at eradicating HPV infection itself.
- While there are HPV vaccines available to prevent infection, there is no available treatment against HPV infection itself. Moreover, not everyone infected with HPV will develop cancer. Most HPV infections are asymptomatic and will be cleared by the body's natural immune system. However, in some cases, if HPV infection persists and is left undetected, it can evolve into high-grade intraepithelial lesion and subsequently to cervical cancer.

Scenario 1.3: HPV screening for cervical cancer

Clinical situation:

A 40-year-old woman has been returning regularly for cervical cytology for the past two decades. Her sister has been screened with an HPV test in a private laboratory and was told this novel test is more sensitive than Pap cytology. She would like to know if the HPV test is better than a Pap test for cancer screening, and if it is available in Canada from a public medical laboratory. She also wants to know how frequently she should be tested and if the test will identify the HPV type involved, as she read that HPV16 is the most dangerous.

Relevant information which can be shared with the patient:

- The HR-HPV test is considered more sensitive than cytology to indicate the presence of high-grade cervical lesions (95% versus 55%) [1]. Since HR-HPV test results are objective, highly consistent, reproducible and can be utilized easily for quality assurance programs[6], HR-HPV testing is considered more reliable by some jurisdictions [2,9,10].
- Some laboratories report HPV testing results as HPV positive or negative. This is not an adequate reporting strategy and these laboratories should report if HR-HPV is detected or not.
- The lower sensitivity of Pap tests requires more frequent testing than HR-HPV testing.
- However, the woman in this clinical situation should be reassured since she regularly attended Pap testing and is thus unlikely to have undetected disease.
- The high negative predictive value of HR-HPV testing means this test is more reliable to predict the absence of disease, allowing extension of screening visits with HR-HPV testing to at least five years[3,5,13].
- A negative HR-HPV test result is a good indicator of the absence of high-grade cervical disease (intraepithelial lesion)[3].
- A positive result for HR-HPV in women over 25 to 30 years old indicates a higher risk for cervical cancer but does not necessarily indicate the presence of cancer.
- Invasive cancer arises from precancerous lesions. Colposcopy with cervical biopsies helps in detecting these lesions and treating them before cancer develops. For some women, treatment is not instituted immediately and they are instead followed up closely.
- The cervical sample collected in a special collection media can be used for both HR-HPV testing and Pap testing. If the sample tests positive for HR-HPV, then a Pap test can be done on the same sample to screen for the presence of abnormal cells. HR-HPV positive women with abnormal cells in the Pap test can then be referred to colposcopy to assess the presence of cervical disease. This strategy is designated as HPV testing with cytology triage of HR-HPV positive samples.
- Only a subset of genital HPV types cause cancer[11, 12]. They are designated as HR-HPV types. HPV 16 and 18 carry a higher risk of progression to high-grade disease (intraepithelial lesion) and cancer than the other HR-HPV types[8]. The other HR HPV types cause cancer less frequently and less rapidly than HPV 16 or 18. HPV 45 is considered by many as being as oncogenic as HPV16 and 18, however.

- Although HR-HPV are associated with cervical cancer, HR-HPV types can be detected in women that do not have high grade lesions or cancer.
- Some of the currently available HR-HPV tests report separate results for HPV16 and HPV18 but pool together in one or more pools the other HR-HPV genotypes (including frequently types 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66, 68). These other HPV genotypes combined with HPV16 and 18 are responsible for over 95% of cervical cancers in Canada[11].
- The presence of HR-HPV in women does not necessarily indicate the presence or future occurrence of cancer. Referring all women positive for HR-HPV would lead to an increased number of unnecessary colposcopies and treatment with potential adverse event on reproduction in younger females. Different strategies can help to decide if a woman who is positive for HR-HPV should be referred to colposcopy to avoid unnecessary procedures in a woman with a transient HPV infection or without lesions. These strategies, which may vary between countries and provinces/territories, are designated "triage of HR-HPV positive women".

  Triage with colposcopy:

  - **HR-HPV +ve, Pap +ve**: Triage of HR-HPV positive women to colposcopy can be done with a Pap test and/or HPV 16/18/±45 testing. In one triage strategy, a Pap test is done when a woman tests positive for HR-HPV and referral to colposcopy is planned if the Pap is abnormal[10,15].
  - **HR-HPV +ve, Pap –ve**: Those with a normal Pap test could have a repeat cytology testing at 6 and 12 months or be tested for HPV16/18/±45. Women are referred to colposcopy if they are positive for these types or have an abnormal Pap.
  - **HR-HPV +ve, HPV16/18/$^{+}$-45 -ve, Pap –ve**: Finally, those who are HR-HPV positive with a normal Pap test but negative for HPV16/18/±45, could be retested 6 to 12 months later and be referred to colposcopy if still positive for HR-HPV (persistent HR-HPV infection).
  - Others instead initially triage HR-HPV positive women with HPV16/18/±45 testing[16]. Women negative for HPV16/18/±45 can have a Pap test. Women positive for HPV16/18/45 or with an abnormal Pap test are then referred to colposcopy. Colposcopy will assess the presence of lesion, grade and treatment options[9, 10].

  *Note: at the time of this publication, no specific triage strategies have been proposed in Canada for primary HPV testing. Follow-up procedures have to adhere to local recommendations where and when they exist.

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Section 2

Sexual Transmission of HPV

Author: Ann N. Burchell, PhD

Objectives:

1. To clarify issues regarding the risks of sexual transmission of HPV
2. To provide information on the natural history of HPV infections
3. To advise on ways to reduce the chances of transmitting HPV

Scenario 2.1: A woman in her first sexual relationship receives a positive HPV test result – how was HPV transmitted?

Clinical situation:

A woman receives a positive result for high-risk HPV. She has had only one sexual partner and they have been sexually active for about one year. She is on oral contraceptives and they are currently not using condoms. Her questions include:

a) What is the possibility this was contacted from a fomite (toilet seat or other non-living object) rather than from her boyfriend?
b) Should her partner have a test to see if he is still infected with this HPV?
c) Should she encourage her partner to wear a condom even though she herself is not concerned about pregnancy as she is on oral contraceptives?
d) How will she know when she is no longer infectious for possible future sexual contacts?

Relevant information which can be shared with the patient:

- Reassure her that HPV is very common among both women and men. More than 75% of people get it at least once[1,2,3,4].
- HPV is transmitted through skin-to-skin sexual activity. It is most easily transmitted through vaginal or anal intercourse, but it can also be transmitted via oral sex and mutual masturbation. Although it is theoretically possible for HPV to transmit via fomites, this is thought to be exceedingly rare compared with sexual activity[3,4, 5,6,7,8,9,10,11].
- No HPV test is currently approved for men. In the absence of a wart or lesion, no treatment is available or needed. For most men, the body will clear an HPV infection on its own. Penile cancer is extremely rare[1,2,3].
- Condom use for vaginal and anal intercourse offers some protection although it is incomplete, usually in the order of a 20% to 70% reduction in risk[12,13,14,15]. Using condoms may help to prevent infecting her current and future partner(s). There is also some evidence that consistent use of condom may help to clear HPV infection about 1.7-12 times more quickly and may increase the likelihood of regression of cervical lesions by 3-5 fold[15], compared to non-users or inconsistent users.
- The vast majority of HPV infections last only 1-2 years, and the body clears the infection on its own[1, 2,3]. In most cases, the duration of infectiousness would be short lived, and future HPV-negative tests can provide reassurance. Nevertheless, some HPV infections can go dormant, remain undetectable by current tests, and later reactivate (e.g., during a period of immune suppression)[3], and so it is impossible to state unequivocally that the risk of transmission is zero. As described in more detail in scenario 4.3, the decision to inform future partners is a personal one.
- HPV vaccination could be offered to protect against the HPV types addressed by the vaccine in the future (refer to section 3).

Scenario 2.2: Woman with genital warts – can she still have sex?

Clinical situation:

A woman with a new boyfriend presents with genital warts. She is very concerned about these and has questions:

a) Does she need an HPV test to know if she has an oncogenic HPV as well as the one presumably that has caused the genital warts?
b) Is she at increased risk of acquiring an oncogenic HPV or other sexually transmitted infections?
c) Can she still have sex with her boyfriend? Does she need to inform him that she presumably has this virus?
d) How long will the genital warts persist?

Relevant information which can be shared with the patient:

- HPV is very common among both women and men. More than 75% of people will get at least one genital HPV during their life[1,2,3,4].
- The HPV types that cause genital warts do not cause cervical cancer. However, people who get one HPV type may have been infected with another HPV type or sexually transmitted infection. Offer cervical cancer screening tests (Pap if under 30; or HPV test if over 30), if she is due for one, and emphasize the importance of regular cervical cancer screening according to the recommended intervals (refer to Appendix 1, page 49).
- Also, discuss the importance of routine screening for other STIs and HIV and recommend screening for these[1,2,3].
- HPV is transmitted through skin-to-skin sexual activity. It is most easily transmitted through vaginal or anal intercourse, but it can also transmit via oral sex and mutual masturbation. Transmission is more likely to happen when a lesion/wart is present. It is likely that the boyfriend has HPV too[3,4,5,6,7,8,9,10,11].
- Condom use for vaginal and anal intercourse offers some protection although it is incomplete, usually in the order of a 20% to 70% reduction in risk[12,13,14,15]. Using condoms may help to prevent infecting her current and future partner(s). There is also some evidence that consistent use of condoms may help to clear HPV infection about 1.7-12 times more quickly[16], compared to non-users or inconsistent users. Condom use also helps to prevent transmission of other sexually transmitted infections[1].
- Suggest that she make her partner aware of her genital wart diagnosis out of concern and care for the health of her partner, if she feels comfortable disclosing. Points to emphasize: HPV is extremely common. In the absence of a lesion, no treatment is available or needed, but follow-up may be recommended. Penile cancer is extremely rare[1,2].
- Regarding how long warts may persist, one option is to wait and see if the they go away on their own. About 50% of warts clear naturally within 6 months. If the warts persist and/or are bothersome, discuss topical and surgical (ablative) treatment options[1,2].
- Consider HPV vaccination to protect against other HPV types in the future and prevention of recurrence (refer to section 3 for a discussion about the value of vaccine in similar cases).

Scenario 2.3: Couple with recurring genital warts – who infected whom?

Clinical situation:

A middle-aged male has had recurring but infrequent genital warts since his 20s. He has been married for over 10 years to his wife who had no signs of warts and has had normal cytology results in the past. His wife recently had an extramarital partner and subsequently developed genital warts. The couple wishes to remain together but they have questions:

a) Could they be co-infecting each other with different HPV types? Should she get an HPV test?
b) Is it likely that she got HPV from her extramarital partner rather than her husband since this is the first time she developed warts?
c) Should they use condoms?

Relevant information which can be shared with the patient:

- HPV is very common among both women and men. More than 75% of us get it at least once[1,2,3,4].
- HPV can be transmitted through skin-to-skin sexual activity. It is most easily transmitted through vaginal or anal intercourse, but it can also transmit via oral sex and mutual masturbation. Transmission is more likely to happen when a lesion/wart is present. Repeat infections are possible[3,4,5,6,7,8,9,10,11]. (See section 3 for a discussion about the potential for vaccine to help prevent HPV infection).
- At this time, there is no practical method to find out when one first acquired HPV. Since HPV is so common, and may be detected soon after infection or many years later, it is not helpful, or fair, to blame a sexual partner[1,2,3].
- The HPV types that cause genital warts do not cause cervical cancer. However, people who get one HPV type may have been infected with another HPV type or sexually transmitted infection. Recommend cervical cancer screening to the wife, if she is due for one, and emphasize the importance of regular cervical cancer screening according to the recommended intervals (refer to section 1 and see page 49 for guidelines in each province and territory). Recommend screening for other STIs[1,2,3].
- Condom use for vaginal and anal intercourse offers some protection although it is incomplete, usually in the order of a 20% to 70% reduction in risk[12,13,14,15]. Using condoms may help to prevent infecting her current and future partner(s). There is also some evidence that consistent use of condoms may help to clear HPV infection about 1.7-12 times more quickly and may increase the likelihood of regression of cervical lesions by 3-5 fold[15], compared to non-users or inconsistent users.

Section 2 References: Sexual Transmission of HPV

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Section 3

HPV Vaccine as Part of the Pre- or Post-HPV Test Counselling

Author: Marc Steben, MD

Objectives:

1. To state the net benefits of HPV vaccination in sexually active patients
2. To counsel about the limitations of natural immunity following the clearance of an infection
3. To explain the potential benefits of HPV vaccination under different clinical scenarios

Scenario 3.1: Newly single 35-year-old female considering new relationship

Clinical situation:

A 35-year-old female recently divorced and is now single. She had a negative cervical cancer cytology screening test (Pap test) 9 months ago. She wants STI screening and an HPV test. She read about HPV vaccines but finds herself too old to get the vaccine.

Relevant information that can be shared with the patient about HPV vaccination:

It is important to realize that NACI has recently removed limits of age for HPV prophylactic vaccines: "**HPV2, HPV4 or HPV9 vaccine …may be used** in **females over 26 years** of age who have not been vaccinated previously or who have not completed the series"[1].

- Women, sexually experienced or not, can benefit from HPV prophylactic vaccination[1,2].
- Most likely she has not been exposed to all HPV genotypes available in the HPV prophylactic vaccines[2], therefore HPV vaccination can still be of benefit to her.
- Women already infected by one of the HPV types available in the vaccines still will get better protection against infection or disease from other vaccine HPV types to which she was not exposed[2,3].
- The protection acquired by naturally eliminating HPV is short-lived and does not protect against reinfection or disease[4].
- Women already infected by a vaccine HPV type, presenting with a lesion or not, will get better protection against reinfection and new site lesion or recurrence of the original lesion from the vaccine compared to natural immunity.
- Emphasize the difference between HPV testing for cervical cancer screening and routine STI testing. HPV testing is not a routine part of an STI screen.
- HPV testing is not a prerequisite to HPV prophylactic vaccines and neither pre nor post-vaccination testing is recommended. Testing methods are not routinely available[14].

Scenario 3.2: Genital warts present in 32-year-old single woman

Clinical situation:

A 32-year-old single female, unvaccinated against HPV, has recently been diagnosed with anogenital warts (AGW). She read that HPV vaccines are safe and effective to prevent AGW and wants to know if the HPV vaccine could help her in getting rid of her AGW.
As a primary-care provider, would you give the same counselling for a male patient?

Relevant information that can be shared with the patient about HPV vaccination:

- Anogenital warts are caused by LR-HPV genotypes mostly types 6 and/or 11 and protection against these types is offered in the 4 and 9 valent vaccines.
- HPV vaccines have no therapeutic value for her current AGW.
- Only the 4-valent and 9-valent vaccines can provide protection against genital warts[1]
- In patients with external genital lesions (mainly genital warts), the 4-valent vaccine has been found to decrease recurrences of anogenital warts and other external lesions and help prevent treatment of the cervix if the HPV type in the lesion was one of the vaccine types. Those findings have not been explored yet for the 9-valent vaccine[3].
- Even if she was already infected by one of the HPV types available in the vaccines, she will receive better protection against disease or re-infection from already exposed HPV types by receiving the 9-valent vaccine if the type she is exposed to is in the vaccine[3].
- The protection acquired by naturally eliminating HPV is short-lived and does not protect against reinfection or disease[4].
- Women, sexually experienced or not, can benefit from HPV prophylactic vaccine[1,2].
- Most likely she has not been exposed to all HPV genotypes available in the HPV prophylactic vaccines[2].
- Condoms offer some protection against transmission for the covered anogenital sites if installed before any sexual contact.
- Timely disclosure to a new partner should allow the time for that partner to start HPV vaccination with the 9-valent HPV vaccine; the vaccine would offer better long-term protection than a condom.

Counselling for a male patient with AGW

- The above counseling also would apply for men
- Only the 4-valent and 9-valent vaccines have been tested in males[1]

Scenario 3.3: Recent diagnosis of high grade disease of the cervix in a 44-year-old woman

Clinical Situation:

A 44-year-old female has histologically confirmed high-grade intra epithelial lesion of the cervix. She is scheduled for a LEEP (Loop electrosurgical excision procedure). After surfing the internet, she wonders if an HPV vaccine could be of use in her case since it seems so effective in preventing high-grade disease. She would also like her husband to receive the HPV vaccine.

Relevant information that can be shared with the patient:

- High-grade disease of the cervix is caused by HR-HPV.
- The HR-HPV types (HPV types 16 and 18) found in the 2-valent and 4-valent HPV vaccine account for 70% of high-grade disease of the cervix[1,8].
- The types found in the 9-valent HPV vaccine account for nearly 90% of high-grade disease of the cervix[1,8].
- HPV vaccines have no therapeutic value for this patient's *current* high-grade disease of the cervix.
- Even if this patient was already infected by one of the HPV types of the vaccines, she will get better protection against disease or re-infection from already exposed HPV types or a new vaccine type by getting the 4-valent or 9-valent vaccine[3].
- Irrespective of the HPV type in the lesion, patients who had received a cervical treatment for high-grade disease of the cervix and had received the 4-valent vaccine (compared to the recipients of the placebo) have been found to benefit through a decrease of all new HPV disease by 46%, all grades of cervical disease by 48%, high-grade disease of the cervix by 65% and all external lesions by 47%. The protection provided by the 9-valent vaccine is not known at this point.
- If the lesion is associated with HPV types 6-11-16 or 18, it is useful to know that 4-valent vaccine recipients had a reduction of all HPV 6-11-16-18 genital disease by 79% (these findings have not been explored yet for the 9-valent vaccine)[3].
- The vaccine is very effective (women who did not receive the 4-valent HPV vaccine had a hazard ratio (HR) of 2.840 ($p<.01$) to prevent a recurrence of high grade disease of the cervix compared to those who had received it)[10].
- The protection acquired by naturally eliminating HPV is short-lived and does not protect against reinfection or disease[4].
- Women, sexually experienced or not, can benefit from the HPV prophylactic vaccine[1,2].
- This patient has most likely not been exposed to all HPV genotypes contained in the HPV prophylactic vaccines[2].
- Aside from the benefits of HPV vaccination, it is important to recommend follow-up colposcopies for the woman's high grade neoplasia.
- Regarding the value of having this patient's husband vaccinated against HPV, the value of the vaccine for him personally is currently unknown. But since reinfection is a risk factor for recurrent high-grade

disease of the cervix, there might be value for him to be vaccinated to help prevent further infection or disease in his wife.

Counselling for a male patient with AGW including MSM

- Most of the counselling that is applicable to women about HPV vaccines and high-grade disease of the cervix also would be applicable for men who have sex with men (MSM) and for those who have high-grade disease of the anus.
- Only the 4-valent and 9-valent vaccines have been tested in males[1].
- High-grade disease of the anus is caused by HR-HPV.
- The HR-HPV types found in the 2-valent and 4-valent HPV vaccine account for 50% of high-grade disease of the anus.
- The types found in the 9-valent HPV vaccine account for 90% of high-grade disease of the anus.
- HPV vaccines have no therapeutic value for high-grade disease of the anus.
- HIV negative MSM who had received the 4-valent vaccine had a statistically significant reduction in the rate of recurrence of their high-grade disease of the anus.
- The statistical significance rose at $p<.06$ at 3 years in part due the sharp attrition occurring between the second and third year of the study (indicating protection for men may not be as long as for women).
- The above findings have not been explored yet for the 9-valent vaccine[3].
- Even if MSM was already infected by one of the HPV types of the vaccines, most have not been exposed to all types of the 4-valent or 9-valent vaccine[3].
- The protection acquired by naturally eliminating HPV may be less present in males, short-lived and does not protect against reinfection or disease[4].
- Men, sexually experienced or not, can benefit from HPV prophylactic vaccine[1,2].

Section 3 References:

Vaccine as Part of the Pre- or Post-HPV Test Counselling

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Section 4

HPV Testing:
Interpreting the Results to the Patient

Author: Laurie Smith BN MPH

Objectives:

1. To clarify the rationale behind HPV testing for cervical cancer screening
2. To provide guidance regarding how to deliver HPV positive results to the patient
3. To provide guidance regarding partner notification of HPV status

Scenario 4.1: A 46-year-old woman married to the same partner for 20 years presents for screening and has questions about the differences in tests

Clinical situation:

A 46-yr old, married long-term, presents for cervical screening. She is aware that she is eligible to receive HPV testing but has many questions. She wants to know: what the differences are between the tests, and why she would benefit from HPV testing over the Pap smear. She also wants to know why she would only be screened again in 4 or 5 years if the HPV test is negative.

Relevant information that can be shared with the patient:

NOTE: Screening program guidelines and algorithms differ between provinces

- Emphasize: the role of long-term infection with HR-HPV in cervical cancer; the high prevalence of HPV in the general population (it is important to de-stigmatize/normalize HPV); and, that *all* age eligible women, regardless of marital status or sexual history, can benefit from screening for HPV[1].
- HPV has *always* caused cervical cancer, and we now have the ability to test specifically for the virus with HPV testing. The Pap test identifies changes to the cells on the cervix once they have already occurred, and may not pick up early changes; HPV testing identifies the virus that can lead to these cell changes, often before they occur.
- HPV testing every 5 years is at least as sensitive for detection of abnormalities as Pap screening every 3 years[2]. Testing more often than necessary may identify transient HPV infections that would otherwise go away on their own (provide information on the harms of over screening, such as detecting HPV infections that would otherwise go away on their own or the anxiety that can accompany positive results that may be transient, and spontaneously resolve).
- To be at risk for cancer, one must have a long-term infection (usually 10-15 years) with high-risk HPV[3].
- Participating in cervical cancer screening as recommended by the guidelines established in each province is one of the best ways to protect against cervical cancer.
- For more information, refer the patient to the additional resources found in Appendix 1.

Scenario 4.2: A 38-year-old single female, receives HPV positive results from her first screen with HPV testing

Clinical situation:

A 38-yr old, divorced for 5 years (now dating) woman, is concerned about her positive H-HPV test results. She wants to know next steps, is there a "cure", and if she will develop cervical cancer. She feels it important to convey that she is not promiscuous. She wants to know how to determine who gave her HPV and if she can catch it again.

Relevant information that can be shared with the patient:

- A positive HR-HPV test result is not a cervical cancer diagnosis; it is an indicator of present or future risk for cervical cancer. Knowledge of HPV status allows clinicians to determine next steps to manage accordingly in order to detect abnormalities in a timely manner and to treat pre-cancer and prevent cervical cancer. The best way to prevent cervical cancer is to participate in the screening program.
    - (Note: At the time of publishing this document, primary HPV testing algorithms have not yet been established)
- When HR-HPV is detected, a Pap test (cytology) is often the next step to determine if there are any abnormal cells on the cervix. This testing can be done on the same sample that was collected for HPV testing (since it uses liquid-based cytology), so a woman doesn't need to return to the doctor for another visit. If any abnormal cells are identified on the cervix, a colposcopy referral may be required. The results of the colposcopy will help determine future management and follow-up.
- There is no specific "cure" for HR-HPV; however, treatment is available for problems associated with HR-HPV (e.g. LEEP if needed for moderate to severe dysplasia)[1]. Management or future treatment will be determined based on the combination of HR-HPV results and the cytology results.
- It is not possible, or necessary to determine when HPV was caught or from whom. HPV may be detected soon after infection or not until many years later[4]. HPV is highly prevalent and most people do not know they have it, as it usually clears on its own or because it does not result in symptoms. It is possible to be re-infected again in the future with the same or other HPV types.
- For more information, refer the patient to the resources found in Appendix 1.

Scenario 4.3: A 33-year-old woman in a new relationship with a previous history of genital warts presents with a recent positive HR-HPV test

Clinical situation:

A 33-year-old, never married woman, has tested positive for high-risk HPV. Her cytology results are normal. She has been dating her current partner for 4 months. She had genital warts 10 years ago, but has not had them since. She wonders if this is why she is HPV positive now, or if her new partner gave her HPV. She wants to know if she should tell her current partner or future partners, about her HPV results.

Relevant information that can be shared with the patient:

- There are many types of HPV, some are called "low risk" (LR-HPV) types and some are "high-risk" (HR-HPV types). LR- HPV are associated with anogenital warts (AGW) and they do not lead to cervical cancer[5]. It is only a persistent infection (i.e. many years) with HR-HPV that can lead to cervical cancer.
- HPV testing identifies if an HR-HPV infection is present (not LR-HPV). A history of AGW will not affect the results of HPV testing for cervical cancer, nor can people receive HPV testing to assess for AGW.
- It's a personal decision whether or not to notify a partner of the results of a Pap or HR-HPV test[5]. Likely, both partners have been exposed at the time the infection is detected. In addition, HR-HPV could have been contracted years before and it's not possible to determine from whom a woman may have caught the HPV infection.
- HPV is not a "reportable" infection, like some other STIs (for example, chlamydia or syphilis) so the same "contact tracing or notification" processes for sexual partners are not required with an HPV positive result.
- If choosing to tell a partner, start with the basics: HPV is the most common STI, most sexually active people are exposed at some point in their lives; HPV is not the same as other STIs (i.e. chlamydia/gonorrhea); having HPV is not a sign of promiscuity; it's not usually possible to determine from whom a person got HPV or when; HPV related cancers are less common in men, and there currently is no HPV test for men.
- For more information, refer the patient to the resources found in Appendix 1.

Section 4 References:

HPV Testing: Interpreting the Results to the Patient

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Section 5

HPV Testing and Beyond: Complex Psychosocial Issues

Author: Zeev Rosberger, PhD

Objectives:

1. To understand and assess complex psychosocial - sexual reactions to test results
2. To understand the implications of standard psychoeducational and supportive interventions
3. To provide guidance on when to refer to an experienced psychosocial health professional

Scenario 5.1: A 30-year-old single woman, with several past sexual partners since sexual debut, recently had a positive HPV test and Pap and colposcopy biopsies indicating CIN3

Clinical situation:

A 30-year-old, single woman was offered co-testing including a Pap smear and an HPV test. All of her previous Pap smears were negative. The HPV test was positive and the Pap smear indicated a high-grade intra-epithelial lesion (HSIL). She was called by her physician, given an appointment where they discussed the need for a referral for colposcopy. The colposcopy appointment was made and scheduled in two weeks. During this time, she became severely anxious, with diminished appetite, and sleep disturbance. A LEEP was performed and follow-up was arranged. She returned 6 months later for a colposcopy and co-testing, the results from which all came back negative.

Relevant information that can be shared with the patient:

- Provide information about high-grade disease evolution into cervical cancer, to address severe psychosocial distress and worry about a cancer diagnosis due to delays in initial diagnosis and treatment[1,2,3].
- Provide strong reassurance and emotional support[6].
- During the initial discussion with the patient regarding the results, a rapid psychosocial screening should be performed by standard brief, psychometrically valid questionnaire (e.g., the GAD-7 or PHQ-9); and/or specific mental status questions regarding sleep, appetite, excessive worry/fear, attention, changes in activities of daily living, etc[2].
- Provide information regarding the link between HPV, cervical intraepithelial neoplasia (CIN), and cancer and emphasize the fact that the HPV test, since it is more sensitive than Pap has led to earlier intervention and closer follow-up[1].
- Reassure patient as to prognosis, that distress will usually wane with time, but if persistent, referral to an experienced psycho-social-sexual-oncology health professional should be considered[5].

Scenario 5.2: A 35-year-old woman attends her first screening at the urging of her husband and receives a positive result for HR-HPV.

Clinical situation:

A 35-year-old woman, married for 12 years with two children, undergoes HPV testing when her husband discovers she has avoided screening and health care visits in general throughout her life, as she is fearful of receiving 'bad news'. Her screen is positive for HR-HPV but her follow-up Pap is negative. She had a few partners prior to marriage and assumes this was also her husband's experience, and she is a smoker since high school. She is given an appointment to return in 12 months for follow-up HPV testing and Pap, if necessary.

Relevant information that can be shared with the patient:

- The woman may be a health care avoider and this suggests a slightly different counselling approach. An informational-only approach may not be enough to help the woman change her healthcare avoidance behavior and cope with her fears. More complex responses may require more sensitive interventions.
- Requires appropriately nuanced information regarding mechanisms of transmission of HPV and associated risk factors and need for surveillance (transmission information available elsewhere in this document. See general information section).
- Requires information about the importance of follow-up as per guidelines due to long term risk if infection does not clear.
- There exist individual differences in information-seeking styles and levels of intolerance of uncertainty that will moderate stress and anxiety and perhaps compromise health behaviour compliance. More health information may not always be effective. On the contrary, more information may increase anxiety and lead to greater avoidance in someone with high health communication avoidance and high intolerance of uncertainty. Consider using alternate approaches (in addition to information) such as motivational, behavioural and social cognitive approaches.
- The patient should be reassured that her particular information-seeking style is 'normal', as there are many in the general population who feel similarly.
- If the patient so desires, then a brief informational sheet or pamphlet could be provided.
- An assessment should be made regarding her history of health care avoidance and as to how much information the patient desires and is willing to tolerate. With the patient's permission, her partner could be invited to participate, receive the detailed information, encourage the patient to quit smoking to reduce the recurrence of HPV infection and ensure she attends follow-up screenings.

Scenario 5.3: A 21-year-old single, unemployed woman attends a community health clinic as she is concerned about a possible STI

Clinical situation:

A 21 year-old, single, unemployed woman presents at a clinic because wants to know if she has an STI. She has a history of multiple partners since sexual debut at age 16, inconsistently using condoms, and has also experienced 2 pregnancies which were terminated with therapeutic abortions. She has a history of smoking, alcohol and drug use, but denies use of IV drugs. Based on her clinical history of non-compliance/loss to follow-up, she is incorrectly (against current guidelines) offered an HPV screen and the results are positive for HR-HPV. Pap is negative. HIV test is negative and all other STI tests are negative.

Relevant information that can be shared with the patient:

- Ensure patient is aware that a positive HPV test result in patients under age 30 (25 in some jurisdictions), does not signify an increased risk for cervical cancer, nor have implications for her partners. HPV testing in patients under age 30 (25 in some jurisdictions) is inappropriate.
- A detailed sexual, STI/HPV, drug and personal history will contextualize the patient's current and ongoing life issues, especially as they affect sexual activity and possibly impulse control.
- A further assessment of the person's psychosocial history and the social determinants of health (housing situation, existing support network, etc.), and suggesting community supports and referrals, may be appropriate.
- Detailed written, website and other educational materials regarding the mechanisms of transmission of HPV, specific risks regarding HIV and HPV (as well as Hepatitis C), the short and long term risks of other STIs as well, should be given in conjunction with opportunities for questions and discussion[1,2].
- Provide information regarding regular follow-up for retesting at current guideline specified intervals, detailed feedback regarding preventive practices, i.e. condom use, where to find needle and syringe programs (if applicable), and the option of STI testing and/or cervical cancer screening (e.g., HR-HPV testing results) and communication with sexual partners.
- Future appointments should be made for retesting with telephone reminders if possible.
- If appropriate and with consent, the opportunity should be taken to refer the patient for drug counselling and/or rehabilitation[6] and/or to ensure she has access to information about local needle and syringe programs, if available.

Section 5 References:

HPV Testing and Beyond: Complex Psychosocial Issues

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Appendix 1

Additional Resources – General (in alphabetical order)

1. **Canadian Cancer Society: http://www.cancer.ca/en/cancer-information/cancer-type/cervical/screening**
2. **Centres for Disease Control Atlanta: www.cdc.gov/hpv/index.html**
3. **Cervical Cancer Screening Guidelines Across Canada: http://www.cancerview.ca/preventionandscreening/screeningprogramsacrosscanada/**
4. **GOC – The Society of Gynecologic Oncology of Canada: https://g-o-c.org**
5. **Government of Canada: http://healthycanadians.gc.ca/diseases-conditions-maladies-affections/disease-maladie/hpv-vph-eng.php**
6. **HealthLink BC: www.healthlinkbc.ca/healthfiles/hfile101b.stm**
7. **HPV Information: www.hpvinfo.ca**
8. **ICID – International Centre for Infectious Diseases: www.icid.com**
9. **Immunize Canada: www.immunize.ca/en/diseases-vaccines/hpv.aspx**
10. **National Institutes of Health: https://www.cancer.gov/types**
11. **PHAC - Public Health Agency of Canada: www.phac-aspc.gc.ca/std-mts/hpv-vph/hpv-vph-vaccine-eng.php**
12. **SOGC - Society of Obstetricians and Gynaecologists of Canada: www.sogc.org**

Additional Resources – For Clinicians (in alphabetical order)

1. **BC reference guide for Healthcare Professionals (FAQs)**: **http://www.bccancer.bc.ca/screening/health-professionals/cervix**
2. **Canadian Partnership Against Cancer (professional)**: **http://www.cancerview.ca/preventionandscreening/cervicalcancercontrolincanada/**
3. **Canadian Task Force on Preventive Health Care (CTFPHC): Website included recommendation algorithm, Clinician FAQ**: **http://canadiantaskforce.ca/ctfphc-guidelines/2013-cervical-cancer/clinician-algorithm/**

Cervical Cancer Screening Guidelines by Province/Territory

AB:
www.screeningforlife.ca/resources/Cervical%20Cancer%20Resources/Clinical%20Practice%20Guidelines/2.%20Cervical%20Cancer%20Screening%20CPG%20Summary%20Chart.pdf

BC: www.bccancer.bc.ca/screening/health-professionals/cervix

MB: http://www.getcheckedmanitoba.ca/cervixcheck.html
www.cancercare.mb.ca/resource/File/MCCSP/HealthCareProfessional/MCCSP_Guideline_Chart_Jan10.pdf

NB: https://www.gnb.ca/0051/cancer/pdf/2011/sep/7903%20Eng.pdf

NL: www.nlma.nl.ca/nexus/issues/fall_2011/inserts/insert_3.pdf

NS: www.cancercare.ns.ca/site-cc/media/cancercare/cervical%20guideline%20nov13.pdf

ON: www.cancercare.on.ca/common/pages/UserFile.aspx?fileId=13104

PE: www.gov.pe.ca/photos/original/hpei_papguide.pdf

QC: www.inspq.qc.ca/pdf/publications/1279_LignesDirectDepistCancerColUterin.pdf

SK: www.saskcancer.ca/Cervical%20Guidelines

NU: www.gov.nu.ca/sites/default/files/fillpdf/cervical_cancer_screening_guidelines-final.pdf

NWT: http://www.cancernwt.ca/cancer-screening-and-early-detection
http://www.hss.gov.nt.ca/sites/www.hss.gov.nt.ca/files/resources/cervical-cancer-screening-rates.pdf

YK: http://survivornet.ca/en/groups/cervical_cancer_screening/yukon_3

Additional Resources – For Patients (in alphabetical order)

1. **Canadian Task Force on Preventive Health Care (CTFPHC): Website included recommendation algorithm for patient, patient FAQ**
   http://canadiantaskforce.ca/tools-resources/cervical-cancer-2/cervical-cancer-patient-algorithm/
2. **BC Screening patient information:**
   http://www.bccancer.bc.ca/screening/cervix/get-screened
4. **Canadian Partnership Against Cancer (patient and families)**
   http://www.cancerview.ca/preventionandscreening/screeningprogramsacrosscanada/
5. **HPV FOCAL Study for patient (FAQs): www.bccancer.bc.ca/hpvfocal**
   A comprehensive list of FAQs surrounding HPV, HPV testing and HPV positive results

Cervical Screening Programs by Province/Territory

AB - www.screeningforlife.ca/cervical

BC - www.bccancer.bc.ca/screening/cervix

MB - www.getcheckedmanitoba.ca/cervixcheck.html

NB - www2.gnb.ca/content/gnb/en/departments/health/NewBrunswickCancerNetwork/content/NewBrunswickCervicalCancerPreventionScreeningProgram.html

NL - www.easternhealth.ca/WebInWeb.aspx?d=3&id=1515&p=1078

NS - www.cancercare.ns.ca/en/home/preventionscreening/cervicalcancerprevention/default.aspx

ON - www.cancercare.on.ca/pcs/screening/cervscreening/

PE - www.healthpei.ca/Papscreening

QC - http://www.msss.gouv.qc.ca/sujets/organisation/lutte-contre-le-cancer/priorites/depister-le-cancer#col-uterus

SK - www.saskcancer.ca/Default.aspx?DN=0bb4d99c-ccf3-4021-976f-ddc9c11473aa

NT - appointments for Pap tests can be made through a health care provider or a community clinic
NU - appointments for Pap tests can be made through a health care provider or a community clinic
YK - appointments for Pap tests can be made through a health care provider or a community clinic