HIV
How Can GPs Make a Difference?

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Most family physicians have had little experience in caring for people with human immunodeficiency virus (HIV), yet their impact on the epidemic can be substantial. The emphasis for primary care is on HIV testing and diagnosis, treatment of basic HIV problems, case management, and psychosocial support.

Encouraging HIV testing makes a difference

An estimated 15,000 people in Canada are living with HIV that has not been diagnosed. HIV testing is voluntary in all situations except for immigration purposes, and for some life insurance applications. Voluntary testing should be carried out with documentation of verbal informed consent.

Testing is carried out mostly in physicians' offices in the same way that other blood tests are done. Most provinces also offer the option of anonymous testing through special clinics, in which no personal data is taken and only the patient receives test results. Both HIV infection and acquired immune deficiency syndrome (AIDS) are now reportable diseases under public health legislation in all provinces and territories, but anonymous testers are excluded.

Tina's case

Tina, 29, has been your patient for six years. You delivered two of her children, the last one four years ago. She presents to you with her husband for prenatal care.

She was married at age 21 and had one sexual relationship prior to marriage. She has always lived in Canada and works as a teacher. You have never asked her directly about her sexual behaviours or drug use, and you have never suggested she be tested for human immunodeficiency virus (HIV).

For a followup on Tina, go to page 98.

Table 1
HIV testing counselling guidelines

Pre-test counselling:

- Help patients understand their HIV risk
- Inform patients about:
  - The risks and benefits of the test
  - The accuracy of positive and negative test results (over 99% sensitive and specific)
  - The seroconversion "window period" for HIV antibody tests to become positive (98% within three months of infection)
  - Ways to decrease risky behaviours
- Obtain informed consent
- Discuss confidentiality of test results

Post-test counselling:

- An opportunity to reinforce all of the above information
- Should always be carried out in person, especially if the test is positive.

Primary care providers often have difficulty introducing HIV testing or risk counselling. It is important to develop a comfortable and routine approach to discussing HIV testing among patients of all age groups. Introductions such as, "I ask all of my patients these questions," or "Discussing HIV testing is now part of a routine annual checkup," can be helpful. Giving patients information about HIV risks and testing rather than asking intrusive questions can also be a useful way to begin the discussion.

Guidelines for HIV testing are available through the Canadian Medical Association.[1] Pre-test and post-test counselling should be carried out by family physicians (Table 1).

The risks involved in having a HIV test are primarily social. A negative test has essentially no risk. A positive result will bring new challenges to intimate relationships and may lead to stigma and discrimination in a variety of social contexts. A positive test will also diminish chances of obtaining life insurance and could interfere with cross-border travel.

HIV testing in pregnancy

Vertical transmission from women with HIV to their newborns is 25% to 30% without intervention, but can be reduced to as little as 1% with aggressive treatment in pregnancy.[2-4] The mainstay of perinatal prevention is highly active antiretroviral therapy (HAART) during pregnancy, during delivery, and for the newborn. An additional decrease in risk may be achieved with elective cesarean section for women who do not have an optimal response to HAART. All women with HIV should be discouraged from breast-feeding, which also transmits the virus.

In recent years, all provinces and territories, and many professional organizations, have made recommendations encouraging a universal approach to HIV testing in pregnant women. There is no jurisdiction where prenatal HIV testing is mandatory; however, in some jurisdictions women are informed that HIV testing is routine and given the option to decline (the "opt-out" approach).

Canadian guidelines recommend comprehensive counselling about HIV and the HIV test during prenatal screening.[5] The more

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complicated the counselling, the more likely that testing will be declined. HIV risk factors should not be the focus of counselling since up to 70% of HIV-positive women are not aware of being at risk and some feel stigmatized if they agree to the test.[6] HIV testing should be explained as a routine procedure, and the decision about testing should be based only on the benefits and risks of the test itself.

Teaching about safe sex makes a difference

One of the most important interventions that primary care providers can implement to decrease HIV transmission is to counsel about HIV transmission.

HIV has three transmission routes: sexual, perinatal, and intravenous. Male-to-female transmission is about three times more efficient than female-to-male transmission.[7] Unprotected vaginal and anal intercourse are the most risky sexual activities. Risk of transmission through kissing, touching, oral sex with condoms, and masturbation approaches zero. Oral sex without protection, and anal and vaginal sex with condoms are low-risk.

Treating HIV disease makes a difference

In the developed world, a diagnosis of HIV no longer heralds imminent death, but marks the beginning of a long and difficult struggle. Three-year survival for those taking HAART is > 95%, and many have been living with HIV for more than 15 years.[8] Death from diseases not traditionally linked to AIDS, such as liver failure and coronary artery disease, is increasingly common.

A followup on Tina

Tina should receive information about HIV testing and be encouraged to have a HIV test. One approach would be to explain that, since her last baby was born, HIV testing recommendations have changed.

HIV testing is now recommended for all pregnant women, but is optional. The benefit of testing is that, if she is positive, treatments are highly effective in controlling the disease and in preventing transmission to the baby. The risk of testing if she is negative is negligible.

The social risks if the result is positive are significant, but arguably not as significant as the risk of living with undiagnosed HIV. Risky behaviours could be discussed following the decision about testing.

How is chronic HIV treated?

HIV-infected patients not on HAART with CD4 counts > 350 cells/mm^3 should be assessed every three to six months. (Both higher viral load and lower CD4 count are predictive of progression to AIDS and death.) There is substantial evidence to support initiating HAART when the CD4 count is < 200 cells/mm^3, or when a person has AIDS. Prior to this stage, the optimal time to begin antiretroviral therapy is an ongoing point of contention. Recent guidelines have become more conservative and recommend that antiretroviral treatment begin at a CD4 count < 350 cells/mm^3 or a viral load > 55,000 RNA copies/mL in those who are asymptomatic.[9] The therapeutic goals are to durably suppress viral

Frequently Asked Questions

1. Can people get HIV from oral sex?

   Yes, although this is likely an extremely rare occurrence. Presence of oral or genital lesions, brushing teeth before sex, and ejaculation in the mouth likely increase risk.

2. Is it really necessary to have informed consent for prenatal HIV testing?

   Yes, because societal and cultural sources of stigma and discrimination about HIV and HIV testing remain common, informed consent is an important step in all HIV testing.

3. How risky is unprotected anal or vaginal sex between an HIV-positive and HIV-negative person?

   Female-to-male transmission through vaginal intercourse is about one in 10,000 contacts. Risk through anal intercourse is about one in 100 contacts. Risk is higher when the HIV-positive person has high viral load, genital lesions, or is an uncircumcised male.

load, preserve immune function, and improve longevity and quality of life. A decision to begin treatment must take into account a person's readiness, his/her ability to adhere to the regimen, and the anticipated benefits and risks.

Once started, HAART should be considered a lifelong intervention. Viral load and CD4 counts should be monitored every three months for those on medication, and more frequently when changes are made to treatment. Monitoring of virologic parameters is important for determining ongoing effectiveness of therapy, and making changes to treatment when resistance begins to develop or adherence is poor.

There are currently four different classes of antiretroviral available on the market:

- nucleoside reverse transcriptase inhibitors (NRTIs);
- non-nucleoside reverse transcriptase inhibitors;
- protease inhibitors; and
- a fusion inhibitor.

A minimum of three compounds taken together is considered standard care, and the most potent and durable combinations include drugs from at least two classes. Antiretroviral combinations need to be individualized to suit the acceptable dosing and side-effect profile of the specific patient.

Each medication has a different side-effect profile. Diabetes mellitus, hyperlipidemia, and lipodystrophy have been recognized as complications of long-term infection with HIV and likely are a result of some antiretroviral compounds. Blood sugar and lipid levels should be monitored regularly and treated as they would be in HIV-negative individuals.

Prophylaxis for opportunistic infections

Opportunistic infections have decreased dramatically since the introduction of HAART (Table 2).

People with potential exposure to HIV who present within 72 hours should be considered for short-term antiretroviral prophylaxis. Only high-risk exposures, such as unprotected anal

Table 2
Prophylaxis for opportunistic infections

Infection	When teatment is indicated	When treatment is stopped	Preferred agent
Pneumocystis carinii	If CD4 count is < 200 cells/mm^3	If CD4 count recovers to > 200 cells/mm^3 for at least 3 months	TMP-SMX, one double-strength tablet daily
Taxoplasma gondii	If CD4 count is < 100 cells/mm^3	If CD4 count recovers to > 200 cells/mm^3 for at least 3 months	TMP-SMX, one double-strength tablet daily
Mycobacterium avium complex	If CD4 count < 50 cells/mm^3	If CD4 counts increase to > 100 cells/mm^3	Azithromycin, 1200 mg once weekly

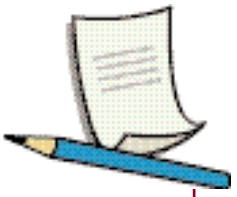
or vaginal sex with a person known to be HIV positive, or a needle injury with a hollow bore syringe that has had blood exposure, should be considered candidates for post-exposure prophylaxis.

Providing psychosocial support

Many clinicians who do not routinely deal with people with HIV encounter some anxiety when confronted with a HIV problem. It is important to confront our own source of anxiety: inadequate knowledge, fear of contagion, and/or moral concerns about sexual diversity or drug use.

People with HIV have a high incidence of depression and continue to encounter stigma and discrimination. They have to struggle with important decisions and the anticipation of death. These are issues for which family physicians are well-suited to provide support.

Take-home message



How can HIV be treated?

- One of the most important interventions is to counsel about HIV transmission and testing.
- HAART should be initiated when CD4 count is < 350 cells/mm^3, when a viral load is < 55,000 copies/mL, or when a person develops AIDS; once started, HAART should be lifelong.
- Prophylaxis should be considered for opportunistic infections; post-exposure prohylaxis should be given when a person has had a high-risk exposure.

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