HIV AND AGING

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It's very good news that people with HIV are paying attention to issues around aging.

It means treatment is effective and they are getting older like everybody else! It's inevitable that people with HIV will develop new health conditions as they age, just like we all do. Sometimes it's hard to tell whether a symptom is due to HIV or aging. People with HIV need to take good care of themselves, be proactive and pay close attention to changes in their bodies as they age.

The challenge of HIV in an aging population

Thanks to advances in treatment, people with HIV are living much longer than ever before.

It is estimated that up to 50 percent of people with HIV in Canada are now older than 50 years of age, and this proportion is expected to increase over the next decade.

In addition, one in five new HIV diagnoses are in people over the age of 50. In many cases, when older people are newly diagnosed they have been living with HIV for some time without knowing it. This means that the disease may have had a chance to advance significantly and it may be more challenging to find effective treatment. This highlights that fact that there is an ongoing need to better understand sexual activity and injection drug use in the over-50 population.

Clearly, early diagnosis of HIV infection is important no matter what your age. The older you are, however, the more critical early diagnosis becomes, as HIV progresses more quickly with age. The good news is that HIV drugs appear to work just as well whether you are 52 or 25 years old. And studies show that age and better control of HIV seem to go hand in hand.

People who are diagnosed with HIV later in life tend to achieve and maintain an undetectable viral load more often than younger people with HIV, possibly because they are better at following treatment instructions. An undetectable viral load means that the level of HIV in the blood is so low that it does not show up in a viral load test.

Overall, the issues associated with treatment of HIV become more complex with age. One reason for this is that the chances of having other health conditions that also require treatment, such as high blood pressure, high cholesterol, arthritis or cancer, also increase with age. Taking several different drugs at the same time can raise your risk of drug interactions, side effects and toxicities. This makes it especially important to speak to your pharmacist about any medications you take.

The side effects of HIV drugs don't appear to occur more often in people with HIV as they get older, but they can be made worse by the side effects of non-HIV drugs. Decreases in kidney and liver function that come naturally with age also increase the potential for drug toxicity, as can changes in hormone levels, metabolism and body weight associated with aging.

Is it HIV or is it age?

Many of the health changes that occur with aging can be similar to the symptoms of HIV or the side effects of HIV drugs. Let's take a look at some of the health conditions associated with both aging and HIV.

Overall immune system decline

As you age, your immune system becomes less effective at protecting your body from infection and disease. This is why untreated HIV progresses more quickly in people who are older and why early diagnosis of HIV is so important.

HIV damages the immune system, but much of this damage can be reversed when people start treatment and achieve and maintain an undetectable viral load. However, some HIV-induced injury persists: for instance, the immune system can lose its ability to remember its exposure to germs it had once encountered. Complicating this situation further, the immune system grows weaker with age. This does not mean that older people who are taking HIV treatment and who have improved CD4 cell counts will get AIDS, but it does mean that you need to stay healthy. Speak to your doctor about the annual flu shot and vaccinations against shingles and pneumonia. Depending on your medical history, your doctor may also recommend other vaccines.

Kidney disease

In the general population, kidney function starts to slowly decrease after the age of 30. As a result, the risk for kidney disease increases as people get older. However, because HIV infection causes general inflammation in the body, all people with HIV are at higher risk for kidney disease whether or not they have an undetectable viral load. This risk is higher for people whose CD4 count is below 200 or whose viral load is not controlled.

When untreated HIV infection is the cause of kidney problems, HIV treatment might help. Some antiretroviral medications do, however, have the potential to cause kidney injury. Tenofovir disoproxil fumarate (TDF) is a drug sold as Viread and is also found in Atripla, Complera, Delstrigo, Stribild and Truvada. In clinical trials it has been found to cause kidney damage in a small number of users. A newer version of tenofovir called TAF (tenofovir alafenamide) has been shown to be safer for the kidneys. It is found in Biktarvy, Descovy, Genvoya, Odefsey and Symtuza. If you are on a TDF-based regimen, your doctor should be monitoring your kidney function as part of your routine blood tests. If you are experiencing kidney-related side effects, they may switch you to a TAF-based regimen.

Cardiovascular (heart and blood vessel) disease

Cardiovascular disease is a broad term that includes coronary artery disease, heart attack and stroke. It is often referred to as heart disease. Everyone's risk of developing heart disease increases as they age, whether or not they have HIV. Women older than 55 and men older than 45 are at higher risk of developing heart disease than younger people. If someone in your family has heart disease—a father, a mother, an uncle or a sibling, for instance—your risk of developing heart disease will be higher than a person who doesn't have a family history.

While you can't control some risk factors for heart disease, such as your age and family history, there are many lifestyle factors you can control. These include:

- smoking
- being overweight
- lack of exercise
- poor diet
- alcohol intake
- high blood cholesterol and blood lipids or fats
- pre-diabetes and diabetes
- high blood pressure (hypertension)

People with HIV are at a significantly higher risk of developing heart disease, and of developing it at an earlier age, than people who are HIV negative. The relationship between HIV and heart problems is still not fully understood. However, some studies show that HIV drugs, especially older ones like protease inhibitors, can increase the risk of heart problems by raising the level of cholesterol and triglycerides in the blood. Research has also shown that lifestyle factors such as smoking, injection drug use and a lack of regular exercise can increase risk. Other studies suggest it may be HIV itself that causes heart problems. When HIV is present for a long time, especially when untreated, it causes inflammation in the blood vessels that can be a risk factor for heart disease and other conditions. Clinical trials on drugs to decrease inflammation are underway. Even if the side effects of HIV drugs increase people's risk of heart problems, it is clear that the benefits of anti-HIV treatment still far outweigh the risks.

HEALTHY HEART HABITS

You can lower your risk for heart problems by adopting the following lifestyle habits:

- eat a healthy diet (plenty of fruits, vegetables, whole grains and protein)
- exercise regularly—especially aerobic or cardio exercise
- quit or cut down on smoking
- limit your alcohol intake
- avoid cocaine, crack cocaine, crystal meth, ecstasy/MDMA, ketamine and GHB
- see your doctor regularly to monitor your heart health

Early menopause

For most women, menopause occurs between the ages of 45 and 55. During this time, the production of female hormones (estrogen and progesterone) declines, eventually causing menstruation (periods) to stop completely.

Although the impact of HIV on menopause has not been well studied, menopause does appear to occur earlier in women with HIV. In women living with HIV in Canada, the median age of menopause is 48; this is three years younger than in the general population. Just why is not clear, but there are many possible factors. They include:

- a low red blood cell count (anemia)
- decreased production of the hormones estrogen and progesterone
- weight loss
- reduced CD4 cell count
- use of street drugs, such as heroin and methadone
- co-infection with hepatitis C

Menopause brings with it an increased risk of many health problems, including:

- cancer of the breast, lungs or ovaries
- emphysema and other lung diseases
- osteoporosis
- cardiovascular (heart) disease

Many of the symptoms of menopause and HIV overlap. These include:

- hot flashes
- night sweats
- skin and hair changes
- trouble sleeping
- forgetfulness
- fatigue
- emotional changes/ mild depression

The fact that menopause and HIV have these symptoms in common can make it difficult to figure out what is causing the symptoms. As a result, an HIV diagnosis might be delayed, or it might be missed entirely. Talk to your doctor if you have a family history of any of the health conditions discussed above or if you have concerns about menopause symptoms.

Bone disorders

Your bones are living and growing. The strength of your bones, or bone density, is determined in part by the amount of calcium, magnesium, phosphorus and other minerals they contain.

When you have HIV, your risk of some bone disorders increases, whether or not you are on treatment. Research suggests that close to 50 percent of people with HIV may have early-stage bone loss or osteopenia. The risk of fracture in people living with HIV has been found to be almost three times higher than in the HIV-negative population.

Chronic inflammation due to HIV has been shown to be a factor in bone loss. Age is also a risk factor for bone problems, as is gender. Women have a higher risk than men of osteoporosis, a bone disease that causes bones to become thin and fragile and to break easily, particularly at the hip, spine and wrist. This is partly because women have an average of 30 percent less bone mass than men. Women are particularly vulnerable to osteoporosis after menopause, when the hormone estrogen—a key factor in maintaining bone strength in women—is no longer produced by the ovaries.

On the other hand, HIV appears to cause more bone loss in men than in women. This means that, regardless of your gender, it's important to pay attention to your bone health.

Other risk factors for both men and women include a family history of osteoporosis, smoking and lack of weight-bearing exercise.

KEEPING BONES STRONG

Since the exact cause of bone disorders in people with HIV is not known, preventing bone loss is the best strategy. You can help prevent bone loss by adopting the following lifestyle habits:

- eat a healthy diet (plenty of fruits, vegetables, whole grains and protein)
- increase your intake of calcium-rich foods (dairy, beans and green leafy vegetables) and take a vitamin D3 supplement
- get lots of weight-bearing exercise, such as walking, running, hiking or weight training
- limit or eliminate your intake of caffeine, cigarettes and alcohol

If you are diagnosed with osteopenia or osteoporosis, speak to your doctor about options for maintaining or increasing your bone density.

Falls and frailty

Regardless of their HIV status, everyone's risk for falling increases as they age. Falls increase the chance of breaking bones. There may be different reasons for falls, like rainy or winter weather. During these times you should take more care with walking and check your footwear to see if the treads are worn. Older people with HIV may be more likely than their HIV-negative peers to face certain medical issues that increase their risk of falling. In some cases, falls can suggest a range of issues including ear infections, balance problems, vision problems and difficulty coordinating muscles and movement. This is why it is important to discuss fall prevention with your healthcare provider.

As people age, they can become generally weaker and frail. Signs of frailty can include:

- weaker muscles (finding it more difficult to lift and carry items)
- walking more slowly
- unintentional weight loss
- feeling tired a lot

Studies have found that common health problems like cardiovascular disease and diabetes can contribute to frailty. However, frailty is not inevitable and it can be reversed if the cause(s) are found and the right interventions are taken. Physical activity and balance training can be especially useful. Talk to your healthcare provider if you find that you have some of the signs of frailty.

Cancers

Before combination HIV treatment was introduced in the mid-1990s, the most common cancers in people with HIV were HIV-related cancers, including Kaposi's sarcoma, non-Hodgkin's lymphoma and cervical cancer. Now, thanks to effective HIV treatment, you are much less likely to get these cancers if you have HIV.

On the other hand, the overall risk of developing a wide range of cancers increases as you age. Both men and women older than 50 are at an increased risk of developing colon and/or rectal (colorectal) cancer, for instance. Age-related cancers are now more common than HIV-related cancers among people on HIV treatment.

Some non-HIV-related cancers that are seen more often and at an earlier age in people with HIV than in the general population include:

- lung cancer
- skin cancer
- anal cancer
- stomach cancer
- liver cancer (more often in those who are co-infected with hepatitis C)
- oral (mouth/throat) cancer
- Hodgkin's lymphoma

The rates of breast, colon, and prostate cancers in people with HIV are similar to the rates in the general population.

People living with HIV who have cancer face more severe outcomes than HIV-negative people with the same type of cancer. There are screening tests available for some cancers (for more on these, go to page 20). For early detection, which may improve your chance of survival, it's important to take any screening test your doctor recommends. To prevent cancer, talk to your doctor about lifestyle changes you may want to make.

Diabetes

Insulin is a hormone produced by the pancreas to control the amount of sugar or glucose in the blood. Diabetes occurs when your pancreas cannot make enough insulin or when your body doesn't respond to insulin as well as it should.

ARE YOU AT RISK OF DIABETES?

Risk factors for diabetes include:

- being older than 45
- being overweight
- a sedentary (little or no exercise) lifestyle
- a family history of diabetes
- Indigenous, African, Latin American or Asian ethnic ancestry
- high blood pressure (hypertension)
- high levels of cholesterol and/or triglycerides in the blood
- co-infection with hepatitis C
- smoking tobacco

Some older HIV drugs are linked to an increased risk of diabetes. Fortunately there are many newer drugs that don't have this side effect. However, HIV itself can increase the risk of developing diabetes, mostly for those who have had HIV for a very long time, aren't on treatment and have a high viral load and low CD4 count.

There are several lifestyle measures that can help you keep your blood sugar levels within the range of normal:

- Limit the amount of sugar and starchy foods in your diet, such as desserts, soft drinks, white rice or potatoes.
- Choose whole grains and unprocessed foods that contain fibre, such as barley, brown rice and oats as healthy grain choices.
- Eat a balanced diet, including healthy protein sources such as lean meats and at least two servings of fish per week.
- Eat smaller amounts.
- Exercise as often as possible, ideally every day.

If you have diabetes, try to get advice from a registered dietician experienced in both HIV and diabetes.

Sexual health

If you have HIV, you can still have a healthy and satisfying sexual life as you get older. In fact, sexual health is essential to your well-being. It may be reassuring that research has now proven that HIV cannot be transmitted sexually when you are taking treatment regularly and have a consistently undetectable viral load.

Sexual problems and low libido (sex drive) can occur in both men and women especially as we get older.

It's a sensitive issue that often gets swept under the rug and not addressed. Some possible causes are:

- HIV itself
- drug side effects
- hormone imbalances (including low testosterone in both men and women)
- cardiovascular disease (this includes problems with the heart, arteries and veins)
- diabetes
- stress and depression

It's important to talk to your doctor about sexual problems because, in many cases, they can be managed and you can have a satisfying and happy sex life.

Screening Tests

While HIV is monitored using routine tests, additional tests may be required to monitor your health status as you get older.

Speak to your health care provider about which tests you should have and how often. Some common tests include:

- **Kidney function test:** Kidney function declines with age, and certain HIV drugs are processed through the kidneys. For both these reasons, a blood and/or urine test is recommended every three to six months.

- **Bone density scan:** A scan of your lower spine and hip measures your bone density and is recommended for all HIV-positive women and for HIV-positive men over the age of 50.

- **Fasting blood glucose test or glycosylated hemoglobin (HbA1c) test:** A blood test for diabetes can be done twice a year. You may not need to fast before the HbA1c test.

- **Lipid profile test:** This blood test checks total cholesterol, LDL (bad fats), HDL (good fats) and triglycerides. It is recommended once or twice a year, depending on your risk factors for heart disease.

- **Blood pressure monitoring:** A blood pressure monitor measures the force of blood against the walls of your arteries. Your blood pressure is one of the factors that indicates your risk of developing heart disease.

- **Colorectal cancer screening:** Tests can include a digital rectal exam, stool test or a scope inserted into the rectum (colonoscopy).

Gender-specific tests*

- **Pap test:** A Pap test collects cells from the cervix for examination under a microscope. It is used to detect changes that indicate the presence of cancer or changes that may lead to cancer. People with a cervix who are sexually active and have HIV are recommended to have Pap tests every six months to a year.

- **Pelvic exam:** A pelvic exam is a physical examination of the internal and external pelvic organs. It is usually combined with a Pap test every six months to a year.

- **Prostate exam:** A manual digital exam of the rectum is recommended yearly for people over 40. Your doctor may also order a PSA blood test, which screens for prostate cancer, although this is not always covered by provincial insurance.

- **Breast exam:** To detect possible early signs of breast cancer, your doctor will check for lumps or other abnormalities in your breasts, nipples and armpits. A breast exam is recommended once a year.

- **Mammogram:** A mammogram uses a low-dose X-ray to examine each breast. It is used to look for different types of tumours and cysts. It is recommended every one or two years for people over 40.

** We acknowledge the diversity of people living with HIV, including trans people. If you have had gender-affirming surgeries or are unsure about what tests are right for you, talk to a doctor who is knowledgeable about trans healthcare.*

Mental Health

People with HIV have a higher rate of mental health disorders than the general population.

Stigma, isolation, trauma and the loss of friends and family can all contribute to this. Depression is the most common mental health condition and is seen in people with HIV of all ages. In some people, early symptoms of depression may include unexpected tiredness or lack of energy, problems falling asleep or staying asleep, or waking up and not feeling refreshed.

Possible physical causes of depression include:

- anemia
- low testosterone
- low level of vitamin B12
- low thyroid levels (especially in women)
- hormonal changes for women that can be related to pre-menstrual syndrome (PMS), pregnancy, giving birth or menopause

HIV itself can also contribute to depression, and some treatments can cause these side effects: efavirenz (Sustiva, also in Atripla) can cause mental health problems, and a small proportion of people (one to three percent) who take integrase inhibitors such as raltegravir (Isentress), elvitegravir (in Genvoya and Stribild), dolutegravir (Tivicay, also in Juluca, Dovato and Triumeq) and bictegravir (in Biktarvy) experience anxiety, sleeping problems and depression. Symptoms of anxiety include a rapid heart

rate, insomnia and extreme worry, and it is relatively common among people with HIV. If you are experiencing any of the above symptoms, it's very important to see your doctor and get treatment and support.

Dementia is a brain disorder that can affect your memory and ability to think clearly. It can have a serious impact on your daily activities, your quality of life and even your ability to live independently. Fortunately, the HIV-associated dementia that was seen in the early days of the epidemic greatly declined after effective HIV treatments became available in the mid-1990s. Nevertheless, as you age, you may be at increased risk of developing what is now called HIV Associated Neurocognitive Disorder (HAND). This is a spectrum of cognitive, motor and/or mood problems that affects up to 50 percent of older people with HIV in Canada (estimates vary). Symptoms include difficulty remembering, concentrating, performing calculations or completing basic tasks, but most people with HAND have very mild impairment. It's important to speak to your doctor as soon as possible if you become aware of these symptoms.

Isolation and Coping with Loss

It is wonderful that many people with HIV are now living long enough to experience old age.

Living with a chronic illness such as HIV can be difficult at the best of times, however, and this can affect your quality of life. Losses you may have experienced as a result of being HIV positive, such as the loss of health, employment, income, youthful good looks, or friends who have died can be devastating.

WAYS TO COMBAT ISOLATION

Here are some ways to combat isolation and improve your overall quality of life:

- get involved in your community and consider volunteering with an organization
- create a strong social and support network
- exercise your mind and keep mentally active
- manage stress and depression
- eat a healthy diet
- sleep well
- get outdoors and exercise physically
- cultivate a positive outlook
- quit smoking
- avoid excessive alcohol
- have a spiritual practice
- have a healthy sex life

Decisions about particular medical treatments should always be made in consultation with a qualified medical practitioner knowledgeable about HIV, hepatitis C, related illness and the treatments in question.

CATIE provides information resources to help people who wish to support others or manage their own healthcare in partnership with their care providers. Information accessed through or published or provided by CATIE, however, is not to be considered medical advice.

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