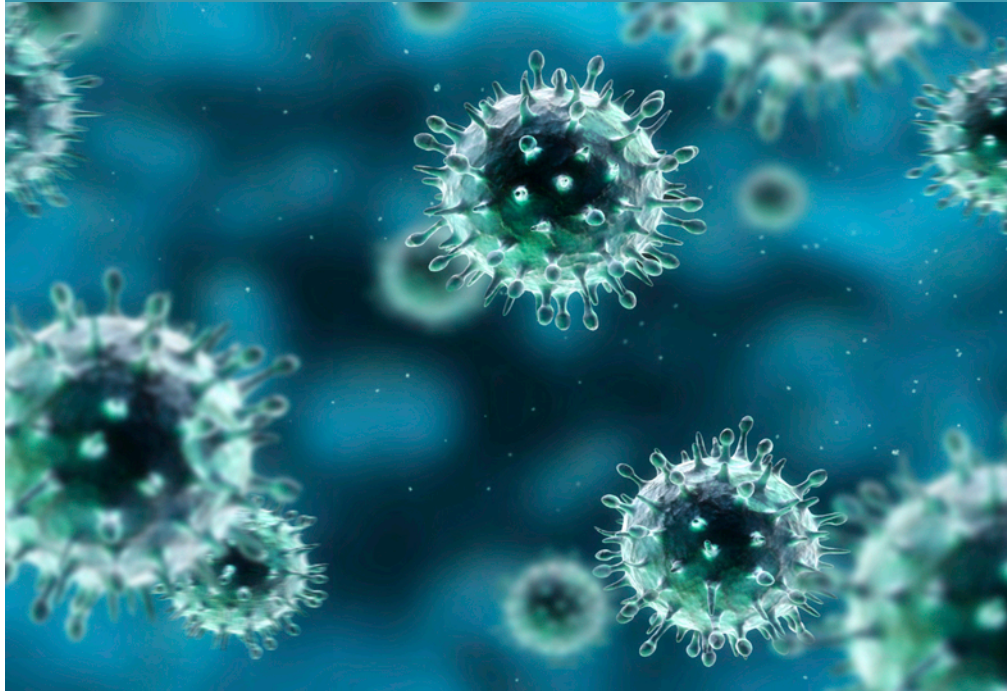


# TREATMENT BULLETIN

A comprehensive guide to health and well-being for people living with HIV/AIDS  
January 2012



## ACCELERATED AGING & HIV:

What is it and what does it mean for people  
living with HIV/AIDS?

Toronto People With AIDS Foundation

[www.pwatoronto.org](http://www.pwatoronto.org)







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**Disclaimer:** The Treatment Resources Program at the Toronto People With AIDS Foundation provides information and resources to empower people living with HIV/AIDS to be proactive around their health by working in partnership with their health care providers. We do not recommend or promote any treatment in particular. We strongly urge those interested in any specific treatment to consult a wide range of resources, including a qualified medical and/or complementary therapy practitioner who has experience in working with HIV+ individuals.

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The idea of accelerated aging in HIV infection has been heavily discussed recently and refers to the observation that HIV positive individuals may experience faster than normal aging – seeing various organ diseases (like heart disease) and other ailments associated with advanced aging occurring at an earlier age than in their HIV negative counterparts.

Understandably, the idea of accelerated aging has been causing concern amongst both people living with HIV/AIDS (PHA's) and doctors, especially now that effective medications are allowing PHA's to live much longer with what is now thought of as a manageable chronic illness.

While there is still much research to be done, and questions to be answered, this treatment bulletin is intended to provide you with an overview of what is known to date about accelerated aging and what it means for people living with HIV/AIDS.

## **WHAT IS ACCELERATED AGING?**

Accelerated aging affects a number organ systems, from the heart to the bones, and can even cause generalized frailty (a condition of being weak and fragile). Evidence is showing that disease of these organs can appear in PHA's as much as a decade or more sooner than in the HIV negative population.

Illnesses that have been observed as occurring prematurely in PHA's include cardiovascular disease, non-AIDS related cancers, bone fractures and osteopenia (soft bones), liver failure, kidney failure, cognitive (brain function) decline, and frailty. PWA has bulletins relating to many of these issues which are available online on our website and in print at our office.

There is still the question as to what extent the premature onset of non-AIDS related diseases is part of the normal human aging process and lifestyle factors, and how much is the result of HIV infection and/or the effects of long-term anti-retroviral treatment. So far, evidence seems to indicate that it is a combination of all three of these factors and scientists are busy trying to verify and determine the answers to these questions based on what doctors have been observing for some time now.

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## WHAT CAUSES ACCELERATED AGING TO OCCUR?

The most overarching theory as to what is contributing to accelerated aging is the process of inflammation and has been the subject of much recent research with respect to HIV, aging, and early onset of many of the age-associated health conditions discussed previously. Inflammation is a normal immune system reaction to infection or irritation. *Acute* inflammation is what causes redness, pain, and swelling that you experience when you hurt yourself or when you have an infection. With HIV infection, however, the virus is causing a *chronic* state of inflammation that is subtle but over the long term contributes to the development of disease in the body. We know, for example, that inflammation is a contributing factor for heart disease and promoting plaque build up in the arteries. It has long been known that there is a link between inflammation and the development of certain cancers. It appears that the higher the HIV viral load, the more intense the inflammatory response is. This is the reason that guidelines are asking people to start medication earlier than previously recommended.

Medications are also known for contributing to early development of certain conditions. Protease inhibitors are known to increase blood fats and LDL (bad) cholesterol, which are linked to heart disease, and cause blood sugar abnormalities associated with diabetes. Decreases in HDL (good) cholesterol are also being seen. HIV medications, such as tenofovir, also lead to increased bone loss and put you at risk for osteoporosis and fractures though we don't quite know the reason why. That being said, HIV itself can also lead to osteoporosis and is seen as being more harmful to bone health than antiretroviral medications.

## WHAT DOES ACCELERATED AGING MEAN FOR PHA'S?

HIV medications have come a long way and mean that people are living into retirement, something to be celebrated. It also means that health concerns associated with aging need to be taken into consideration, and in the context of HIV, that does mean we need to look at them starting at an earlier age than in the general population.





There has been a lot of discussion amongst HIV researchers and physicians about when to begin treatment. Newer guidelines are setting CD4 counts at 350 as to when to start treatment, but some are going as high as 500 because better outcomes have been seen in those that start treatment earlier. This conversation is also one that needs to be occurring in the context of HIV and aging

since we know there is a link between high viral load and the extent of inflammation caused by the virus. For older people living with HIV, the progression of HIV may be faster. It may therefore be especially important for them to start treatment earlier.

A well-known, large clinical trial known as the SMART study (Strategies for Management for Antiretroviral Therapy), provides some good data regarding the effects of viral suppression on disease progression. The study followed two groups of people: one group was continuously kept on treatment to keep their virus suppressed, the other was given treatment intermittently to keep CD4 counts above 350 cells/mm<sup>3</sup> and not necessarily reach an undetectable viral load (treatment started when CD4 count was below 250 and stopped when 350 was achieved). The investigators were trying to determine whether intermittent treatment would decrease long-term effects of medications and delay HIV disease progression because of decreased medication exposure. The study was stopped before it was completed because those in the treatment interruption group showed higher rates of complications such as cardiovascular, kidney, and liver disease, and more than twice the risk of HIV disease progression compared with those on continuous treatment with viral suppression. This suggests that increased risk of these diseases relates more to untreated HIV rather than drug toxicity.

Pill burden (the amount of pills you have to take daily) has decreased significantly over the last decade, with some regimens now only requiring one pill, once daily. With additional health concerns that arise from aging, not only can pill burden increase but we now have to be concerned over potential interactions between various medications and antiretroviral therapy. Known as polypharmacy (the administration of many drugs together), this is generally a common concern in elderly patients. With aging and HIV, we are now having to explore the issue of how medications used to treat HIV interact with all of these other medications used to treat heart disease, diabetes, cancer, and more, and there is still a lot to learn about these interactions. There are also currently no guidelines for dosing of antiretroviral medications for older populations.

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Up until now we've discussed how both HIV itself and HIV medications contribute to accelerated aging in those living with HIV/AIDS. We cannot ignore, however, the impact of lifestyle factors, such as smoking and diet, on the development of various non-HIV related diseases that are also associated with aging. In light of the observations that have been made about HIV and aging, lifestyle choices may require more attention in PHAs. Quitting smoking, consuming a healthy diet full of whole grains, fruits and vegetables, regular exercise, maintaining a healthy weight, and stress reduction can help to potentially delay the onset of and lessen some of effects of accelerated aging.



Perhaps one of the biggest concerns, however, lies in the psychological impact that accelerated aging can have on PHAs. From being given a diagnosis of HIV/AIDS, to finding out you can live a normal lifespan, to then finding out that you'll age faster than the rest of the population can feel like an emotional rollercoaster. The majority



of aging support and information that exists is geared toward the elderly. It can be difficult to relate to the information that is not targeted to your age group or even access services where you may not technically fall under the age guidelines set for programs that assist with age-related concerns. Dealing with physically feeling like you are 50 or 55 when you are 40 may also seem difficult to cope with – a completely natural and normal response.

While we are still trying to gain a further understanding of accelerated aging and its contributing factors, there are things that you may be able to do to help you to lessen the severity of any aging-associated conditions and help you to better cope with them, both physically and mentally.



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## TIPS FOR COPING WITH ACCELERATED AGING

**Eating well** is important for everyone. It doesn't mean you have to be perfect, or can't indulge occasionally. It also doesn't have to be complicated. Focus on whole grains, lots of fruits and vegetables, and keeping fat intake low (especially saturated and trans fats found in animal products and processed foods). Canada's food guide makes some great recommendations and is available for free from Health Canada.

**Exercise** can help to reduce your risk of heart disease and other illnesses, and has a tremendous positive influence on your mood. It is an essential part of keeping your bones and muscles strong and your weight in a healthy range. If you haven't exercised before, start slowly and talk to your doctor first. Ideally, you should aim to get up to at least 30 minutes daily, but some is better than none! Make sure to include weight bearing exercises such as walking or stair-climbing to keep your bones healthy. Also, be creative – exercise doesn't need to involve going to the gym!

**Reduce stress**, which can increase your blood pressure and put you at higher risk for heart related illnesses. Stress can be caused by everything from having to manage simple, everyday tasks, to serious events like the death of a loved one. Stress can cause both physical and mental symptoms and may not always be so obvious. Reducing stress can involve talking to someone, making to do lists to keep you organized, exercising, taking a bath or anything you enjoy. Make a list of things that increase your stress level and work from there.

**Manage risk factors** for diseases like heart disease, diabetes and osteoporosis. Risk factors are things that put you at an increased risk for developing a disease or condition. Many risk factors, like age and family history, you can't change, but many you can simply by changing your diet, increasing exercise, and managing your weight.

**Quit or reduce smoking** as much as you can. While smoking is a personal decision and many people choose to smoke for various reasons, we know that it is a significant risk factor for many diseases, most notably cancer and heart disease. If you factor in the additional risk that comes from HIV infection, quitting smoking makes a lot of sense if you want to reduce your risk. There are many aids to help you quit, from hypnosis and acupuncture to nicotine replacement and other medications. Talk to your health care provider – it is possible to quit and you don't have to do it alone!

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**Consider complementary therapies** to help you stay healthy. Under the care of a licensed practitioner that is familiar with working with PHAs, treatments like acupuncture, homeopathy, massage, and nutritional and herbal therapies can alleviate many side effects and mitigate some of the long-term effects associated with HIV/AIDS, potentially even reducing the amount of non-antiretroviral medications you need to take. Talk to your health care provider about including a good multi-vitamin, calcium, vitamin D, and Omega-3 oil as part of your regimen.

**Have a good relationship with your doctor** so that you feel comfortable raising any concerns and asking any questions you have about your health. If you have difficulty communicating with your doctor consider making a list of things to discuss or bringing someone with you to your appointment who can act as an ally and support you. If you do not get along with your doctor or feel uncomfortable raising health concerns with them, don't hesitate to find another physician. Poor communication between you and your physician can be a barrier that keeps you from getting the care that you need.

**Use your local AIDS Service Organization (ASO) for support and resources.** ASO's can provide a wealth of information and services to help PHAs stay healthy. From publications and workshops, to support groups, social and health programming, you can find others who can relate to what you may be experiencing and information that is specific to HIV and aging.





*The Toronto People With AIDS Foundation exists to promote the health and well-being of all people living with HIV/AIDS by providing accessible, direct, and practical support services.*

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