



COVID-19 Vaccines: Summary of dose guidelines for people living with HIV in Canada

Staying up to date on the latest information about COVID-19 can be difficult throughout the pandemic. Public health guidance has shifted as we gain more knowledge about the virus that causes COVID-19. Some people have questions about whether people living with HIV require a third dose of the COVID-19 vaccine. As part of the partnership between the CIHR Canadian HIV Trials Network (CTN) and CATIE, we have put together a living document to provide the latest information on COVID-19 vaccination third doses for people living with HIV across Canada. For more information on COVID-19 vaccines, please visit www.catie.ca/covid-19-faq.

How do COVID-19 vaccines work?

The vaccines work by teaching your body's immune system to recognize the virus that causes COVID-19. This allows your body to fight off the virus if it ever encounters it. Vaccines can reduce the severity of disease if you become infected, and they may also help to prevent transmission of the virus to others. In the case of COVID-19, two types of vaccines are available: [viral vector-based vaccines](#) (AstraZeneca and Johnson & Johnson) and [mRNA vaccines](#) (Pfizer–BioNTech and Moderna). Viral vector vaccines use a different, harmless virus to introduce bits of the COVID-19 virus, without making you sick, to cause the body to produce antibodies against COVID-19. On the other hand, mRNA vaccines directly teach your cells to produce a protein that then triggers an immune response. You can learn about mRNA vaccines and HIV in this [CTN blog post](#).

HIV and COVID-19 vaccines

It is important to consider getting vaccinated if you have HIV. Many people with HIV have or are at an increased risk for developing the underlying conditions that increase their chances of severe disease if they become infected with the virus that causes COVID-19. These underlying conditions include high blood pressure, diabetes, high cholesterol levels, lung disease, and obesity.

Experts consider COVID-19 vaccines to be safe and effective for people with HIV. Clinical trials with the Moderna, Pfizer–BioNTech, and AstraZeneca vaccines included a relatively small number of people with HIV, all of whom were taking ART and who were healthy and well. Studies are ongoing to determine if the vaccines work as well for people with HIV as they do for the general population. Because of changes to their immune systems, people living

with HIV tend to have weaker immune responses to some vaccines, such as the influenza, hepatitis A and B, and human papillomavirus (HPV) vaccines. Past research also suggests that when people living with HIV are vaccinated against some diseases, their immune responses don't last as long as for others.

For COVID-19 vaccines, information is beginning to appear about **safety and effectiveness in people living with HIV who are taking ART and who have an undetectable viral load**. The data suggest that, for this group, COVID-19 vaccines are generally safe, with similar side effects, [antibody responses](#), and [longevity](#) as in HIV-negative people. The effectiveness of these vaccines in [preventing hospitalization and death](#) related to COVID-19 is also similar between people with and without HIV.

There isn't much information yet on how well the vaccine works in people living with HIV who have a compromised immune system. If you are not on treatment and have a very low CD4 count, discuss vaccination with your health care provider. Some experts recommend starting HIV treatment first to prevent HIV-related complications and to potentially improve vaccine effectiveness.

People age 6 months and older, including children and youth living with HIV, are eligible for COVID-19 vaccination across Canada. Booster doses, explained below, are available for everyone age 5 years and older.

Booster doses

Current evidence suggests that for most people, including people living with HIV, receiving two doses of the vaccine creates an initial immune response that is strong enough to effectively reduce the risk of developing COVID-19 or related serious illness. However, the protective effect of this original set of doses, called a primary series, decreases over time. This means that people require "booster" doses, which are additional doses that "boost" protection after the immune response.

In Canada, a COVID-19 booster dose is available 3–6 months after the primary series, depending on the province or territory. Public health officials recommend waiting at least 3 months after COVID-19 infection before getting a booster dose. Follow the links to learn more about [Moderna](#) and [Pfizer–BioNTech](#) booster doses in Canada.

Third dose as part of the primary COVID-19 vaccination series

Unlike a booster dose, people living with **advanced or untreated HIV** are eligible for a third dose much sooner than 6 months in many regions across Canada. For these people and others who don't develop the same immune response to two doses of the vaccine, a third dose is included as part of the primary series of vaccinations needed to get a similar level of protection as other people. In some provinces, like Ontario and British Columbia, children who acquired HIV at or around birth are generally considered to be immunocompromised. Talk with your health care provider to ask if a third dose is right for you. You can also view the current guidance document from the Public Health Agency of Canada [here](#). People living with HIV who are immunocompromised are also eligible for booster doses on top of their three-dose series. Booster doses are available 3–6 months after the preceding dose, depending on the province or territory. If you have any questions about your own medical situation, please consult your health care provider.

What about COVID-19 variants?

As the virus that causes COVID-19 mutates, the effectiveness of the original COVID-19 vaccines can decrease. This is because the antibodies produced by the immune system as a result of vaccination are not specific enough to the newer,

mutated virus. Scientists are updating COVID-19 vaccines by adding **components to specifically target the mutated virus strains**. A “bivalent” vaccine targets two coronavirus strains, which create a broader immune response and improves protection against circulating variants. One of the predominant variations of the virus that is circulating worldwide is the Omicron variant. In Canada, A [bivalent Moderna vaccine](#) is available for people 18 and older, a [bivalent Pfizer–BioNTech vaccine](#) is available for people aged 12 and older. The safety and effectiveness of these bivalent vaccines in younger people has not yet been established.

More information

If you are unsure about COVID-19 vaccines, are uncomfortable about additional doses, or are unable to schedule an appointment, talk to your health care provider. For a collection of resources on COVID-19, please visit [here](#). For more about ongoing CTN research in COVID-19 in people living with HIV, please visit [here](#).

Note: This is a living document and it will be updated as more information becomes available. If you notice something that is out of date, please contact CTNinfo@hivnet.ubc.ca.



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