

COVID-19 Viral Vector Vaccine

AstraZeneca Vaccine

Public Health Factsheet

October 2021

Manitoba 

Immunization is one of the most important accomplishments in public health. Over the past 50 years, immunization has led to the elimination, containment and control of diseases that were once very common in Canada.¹ Vaccines help the immune system recognize and fight bacteria and viruses that cause diseases.

After getting vaccinated, continue to focus on the fundamentals including practicing physical distancing, wearing a mask, washing your hands, staying home if you're sick and practicing good cough and hand hygiene. For more information, visit www.manitoba.ca/covid19/updates/prepareandprevent.html#fundamentals.

What is the COVID-19 viral vector vaccine?

The COVID-19 non-replicating viral vector vaccine is used to prevent COVID-19. Viral vector vaccines use a harmless virus (the vector) as a delivery system. After vaccination, the genetic material contained within the vaccine produces the SARS-CoV-2 spike protein. This protein is found on the surface of the virus that causes COVID-19. Our immune system recognizes that the protein does not belong there and begins to build an immune response by making antibodies. It takes about two weeks for the vaccine to start working. **You cannot get COVID-19 from the viral vector vaccine.**

Health Canada issued the AstraZeneca vaccine a market authorization with conditions to support early access to the COVID-19 vaccines. Health Canada can do this for promising health products when the potential benefits outweigh the potential risks. This authorization gave Canadians access to safe and effective vaccines more quickly than typical circumstances.

Studies have shown a range of effectiveness depending on study design and population. Clinical trial data from the US showed an overall vaccine efficacy of 76 per cent. Some data suggests higher efficacy with at least three months between doses.

Vaccine effectiveness against COVID-19 variants of concern is evolving. Current emerging data suggests the vaccines offer protection against variants of concern although this varies by vaccine and variant. For example, one study showed the AstraZeneca vaccine was 59.8 per cent effective after the second dose against the Delta variant of concern.

The COVID-19 viral vector vaccine being offered in Manitoba is given by injection (needle) into a muscle in the upper arm. Details about the COVID-19 vaccines are subject to change as the evidence continues to evolve. Talk to your immunizer or health care provider about any questions you may have about the COVID-19 viral vector vaccine. Closely follow your immunizer or health care provider's guidance, especially around timing of second doses and other important health-related information, to get the most benefit from your immunization.

The COVID-19 vaccine cannot offer protection against the flu or other viruses or bacteria.

Is the vaccine safe?

The AstraZeneca vaccine is safe and effective but does carry a risk of blood clots with low platelets (known as Vaccine-induced Immune Thrombotic Thrombocytopenia (VITT)). The risk of VITT has been estimated to occur in Canada in one per 73,000 doses administered, and it can be serious, resulting in death, if not diagnosed and treated early. The risk of VITT does not appear to occur with the mRNA vaccines. This is why Manitoba recommends that individuals get the lowest risk option available - the Pfizer or Moderna vaccine, for first and second doses, even if AstraZeneca was already administered for dose one.

¹ The Public Health Agency of Canada

Who should get the COVID-19 viral vector vaccine?

Individuals are recommended to receive an mRNA vaccine (Pfizer or Moderna) for first and second doses. This includes those who already received a dose of the AstraZeneca vaccine. Emerging evidence suggests that administering an mRNA vaccine after a dose of a viral vector vaccine produces a better immune response compared to two doses of a viral vector vaccine.

Individuals who cannot, or will not, receive a Pfizer or Moderna vaccine, may be offered the AstraZeneca vaccine (while supplies last), provided they review the benefits and risks with their doctor or pharmacist AND meet the following criteria:

- individuals aged 40 and over; **OR**
- people aged 30 to 39 who meet one or more of the following conditions:
 - chronic renal disease including end stage renal disease undergoing hemodialysis **OR** peritoneal dialysis
 - chronic liver disease including cirrhosis due to any cause **OR** portal hypertension
 - chronic cardiovascular disease including heart failure, ventricular assist device, adult congenital heart disease, coronary artery disease, malignant tachyarrhythmia **OR** cardiomyopathies
 - COPD, pulmonary hypertension, pulmonary fibrosis, interstitial lung disease, severe/uncontrolled asthma **OR** cystic fibrosis
 - history of cerebral vascular accident with residual deficits
 - malignant hematologic disorders including leukemia and lymphoma **OR** clonal blood disorder
 - malignant neoplasms (solid tissue) who will receive or are currently receiving immunosuppressive therapy including chemotherapy
 - severe obesity (BMI \geq 40)
 - receiving one or more of the following immunosuppressive therapies: B cell therapies (e.g., rituximab, ocrelizumab), cyclophosphamide, alemtuzumab, calcineurin inhibitors, chronic dose prednisone \geq 20mg/day, mycophenolate, sulfasalazine and JAK inhibitors (e.g., tofacitinib)
 - solid organ or hematopoietic stem cell transplant (candidate or recipient)
 - trisomy 21 (Down syndrome)
 - asplenia or hyposplenism (including sickle cell disease)
 - chronic neurologic **OR** neurodevelopmental conditions including cerebral palsy, Parkinson's disease, multiple sclerosis, ALS **OR** dementia (including Alzheimer's disease)
 - HIV (CD4 cell count \geq 200 x 10⁶/L and CD4 percentage \geq 15%)
 - severe systemic autoimmune disorders (e.g., systemic lupus erythematosus, scleroderma, myocarditis, rheumatoid arthritis)
 - type 1 or 2 diabetes mellitus (poorly controlled and/or with complications)
 - active tuberculosis (current or previous) **OR** current latent tuberculosis (LTBI)
 - receiving other immunosuppressing therapy
 - individuals receiving home care **OR** receiving any level of Community Living disABILITY Services supports (or as per family physician determination of equivalent levels of family support).

If you've already received a dose of the AstraZeneca vaccine, you should receive your second dose of COVID-19 vaccine (Pfizer, Moderna or AstraZeneca) eight to 12 weeks after your first dose. A minimum 28 days between first and second doses is an option if you require a shortened vaccine schedule due to health conditions or personal circumstances. Speak with your health care provider if you are uncertain when you should get your second dose.

COVID-19 vaccines can be given at the same time as other (live or inactivated) vaccines (i.e., there is no longer a precautionary waiting period of 14 to 28 days between vaccines).

Individuals living with a medical condition (e.g., heart failure, liver disease, chronic kidney disease) can get the vaccine. If you are immunosuppressed due to disease or treatment, or, you have an autoimmune condition, see the appropriate fact sheet for more information at: www.manitoba.ca/covid19/vaccine/resources.html.

Talk to your immunizer or health care provider if you have any questions about your medical conditions, or if you aren't sure if you are immunosuppressed or have an autoimmune condition. Your immunizer can give you more information, based on what we know now from clinical trial data and post-marketing studies.

Who should NOT get the COVID-19 viral vector vaccine?

Although Health Canada has approved the use of AstraZeneca COVID-19 vaccine in individuals aged 18 years and older, it is recommended that no one less than 30 years of age (as per above eligibility list) be immunized with the AstraZeneca vaccine. All eligible individuals are recommended to receive an mRNA COVID-19 vaccine instead of a viral vector vaccine.

There have been rare but serious reports of people experiencing blood clots following immunization with the AstraZeneca vaccine, commonly referred to as Vaccine-Induced Immune Thrombotic Thrombocytopenia (VITT). Talk to your immunizer or health care provider BEFORE getting immunized about the risks and benefits of vaccination with the AstraZeneca vaccine, particularly if:

- you have had a history of venous sinus thrombosis in the brain or a history of heparin-induced thrombocytopenia (HIT).
- are pregnant and/or breastfeeding.

Individuals who experienced major venous or arterial thrombosis with thrombocytopenia following the first dose of AstraZeneca should not receive a second dose.

Individuals who have previously experienced episodes of capillary leak syndrome should not receive the AstraZeneca vaccine.

Individuals who should NOT get the viral vector vaccine should talk to their immunizer or health care provider about the mRNA (Pfizer or Moderna) vaccine.

The COVID-19 viral vector vaccine should not be given to people who are allergic to an active substance, or any ingredient of the vaccine, or if you have had a severe allergic reaction after the first dose. An allergic reaction can be life-threatening. For information about any of the COVID-19 vaccine's ingredients, please review the vaccine manufacturer's product monograph, available at: www.manitoba.ca/vaccine or talk to your immunizer or health care provider.

Polysorbate 80 is an ingredient of the viral vector vaccine. It is a potential allergen known to cause possible allergic reactions, including serious reactions. Polysorbate 80 may be found in some medication preparations (e.g., vitamin oils, tablets, and anticancer agents) and cosmetics. Individuals with polysorbate 80 allergies may also be allergic to polyethylene glycol (PEG), another potential allergen found in many products (e.g., bowel preparation products for colonoscopy, laxatives, cough syrup, cosmetics, contact lens care solutions, skin care products, and as an additive in some food or drinks). If you are allergic to polysorbate 80 or PEG, speak with your health care provider before immunization.

If you have a fever or any symptoms that could be due to COVID-19, you should not be vaccinated at that time. If you were infected with COVID-19, you should get immunized after your symptoms are gone and your period of isolation is over. Talk with your health care provider if you have any new or lingering symptoms of COVID-19. Your health care provider will advise you when you may be able to receive the vaccine.

Possible side effects from the COVID-19 viral vector vaccine

In general, the side effects observed during the clinical trials were similar to those of other vaccines. The side effects were generally mild or moderate, and went away a few days after vaccination.

They included:

- pain, redness, itchiness, swelling and/or a warm feeling at the injection site
- body chills
- feeling tired and feverish
- headache
- muscle and joint pain
- nausea and vomiting

Over-the-counter medicines, such as acetaminophen (e.g., Tylenol®) or ibuprofen (e.g., Advil®) may be considered to help manage these symptoms (like pain or fever, respectively), if they occur **after vaccination**.

These are common side effects of vaccines and are not a risk to your health.

Signs and symptoms of blood clots, a rare but serious possible reaction following AstraZeneca vaccination, include: shortness of breath, chest pain, leg swelling, persistent abdominal pain, neurological symptoms including sudden onset of severe or persistent worsening headaches or blurred vision and skin bruising (other than at the site of where the vaccine was given). If you experience any of these signs or symptoms within 42 days of being immunized with the AstraZeneca vaccine, go to the nearest emergency department or health centre for immediate attention. Be sure to tell your doctors that you received the AstraZeneca vaccine and when you received it.

For a full list of possible side effects, please review the vaccine manufacturer's product monograph, which is available at: www.manitoba.ca/vaccine or speak with your immunizer or health care provider.

As with all vaccines, serious side effects such as allergic reactions are possible. However, these are rare.

It is important to stay in the immunization clinic for 15 minutes after getting any vaccine in the unlikely event of a severe allergic reaction. You may need to stay in the clinic for 30 minutes if you have had a serious allergic reaction to a vaccine in the past. Symptoms of a severe allergic reaction can include hives, difficulty breathing, or swelling of the throat, tongue or lips. This can happen up to an hour after you get vaccinated. If this happens after you leave the immunization clinic, **call 911 or go to the nearest emergency department or health centre for immediate attention.**

Report any serious or unexpected adverse reactions to a health care provider, or call Health Links – Info Santé at 204-788-8200 or 1-888-315-9257 (toll free).

Preparing for your vaccination

Be sure to follow the signs and instructions at the immunization clinic (e.g., stay two metres away from other people), and remember to stay home if you are sick.

- Wear a short-sleeved shirt.
 - Be sure you have eaten regularly that day.
 - Bring and wear your mask.
 - Bring any personal identification required by the immunization clinic, such as your Manitoba Health Family Registration Card.
 - Bring your completed and signed COVID-19 Vaccine Consent Form, available at: ProtectMB.ca/Resources.
-

Your record of protection

All immunizations, including the COVID-19 vaccine, are recorded on your immunization record in Manitoba's immunization registry. This registry:

- allows health care providers to find out which immunizations you (or the people you care for) have received or need to have.
- may be used to produce immunization records or notify you or your health care provider if a particular immunization has been missed.
- allows Manitoba Health and Seniors Care as well as public health officials, to monitor how well vaccines work in preventing disease.

The Personal Health Information Act protects your information and/or the information about any people you provide care for. You can choose to have this personal health information hidden from health care providers. For additional information, please contact your local public health office or talk to a health care provider.

An official Government of Manitoba COVID-19 Immunization Record can be obtained online at: <https://manitoba.ca/covid19/vaccine/immunizationrecord/>. You will need your Manitoba Health Family Registration Card to register and access your record. You can request updates to your immunization record by completing an online form available at: <forms.gov.mb.ca/covid-immunization-record-request/>.

For more information

For more information about COVID-19 or the COVID-19 vaccines, talk to your health care provider. You can also call Health Links – Info Santé in Winnipeg at 204-788-8200 or 1-888-315-9257 (toll free in Manitoba). Or visit:

Manitoba Government:

www.manitoba.ca/covid19/index.html

Government of Canada:

www.canada.ca/en/public-health/services/diseases/coronavirus-disease-covid-19.html
