

# COVID-19 VACCINE

## Questions and answers for the public and healthcare practitioners

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### Vaccine Products

#### How do mRNA vaccines work?

The first COVID-19 vaccines available in Alberta were the Pfizer (Comirnaty) and Moderna (SpikeVax) vaccines. Both are mRNA vaccines.

An mRNA vaccine is a type of vaccine that prepares the body to defend and protect itself against infectious diseases – in this case, COVID-19. The mRNA vaccines teach your body's cells to make a viral protein that triggers the immune response. When a person is administered the vaccine, their body's cells will read the instructions from the mRNA and produce the harmless “spike protein” which is the same protein that is normally found on the surface of the COVID-19 virus, but not found in our bodies. The person's immune system will then treat this spike protein as foreign and produce defenses to fight against it. These defenses are then ready to protect the person against the real COVID-19 virus.

## Why are the mRNA vaccines stored frozen?

The mRNA vaccines are stored in frozen or ultra-frozen temperatures because mRNA is more likely to break down above freezing temperatures. To ensure the vaccine will work the best when it is administered, the vaccine is stored frozen before ready to use. The manufacturers continue to study the stability of the vaccine in various storage conditions and the temperature guidelines for storage may change in the future.

## What are viral vector vaccines and how do they work?

Viral vector vaccines use a modified harmless virus (vector) to carry the genetic code for the COVID-19 virus spike protein. Once in the cells, the vaccine provides instructions for the cell to make the spike protein, which then cause your immune system to produce antibodies that will protect you against COVID-19. The AstraZeneca (Vaxzevria) vaccine is a viral vector vaccine that use very similar technology but are made by two different manufacturers. The viral vector used in either vaccine is a modified adenovirus that is unable to replicate and cause illness.

## Vaccine Effectiveness

### How effective are the vaccines?

All of the vaccines licensed in Canada are highly effective in preventing severe disease, hospitalizations and death from COVID-19.

In Alberta we have administered enough vaccine doses to estimate the effectiveness of all three COVID-19 vaccines against symptomatic infection. The vaccine effectiveness of a complete series, meaning two doses, is as follows:

- Moderna (SpikeVax) – 92%
- Pfizer (Comirnaty) – 90%
- AstraZeneca (Vaxzevria) – 88%

Vaccine effectiveness in the province may change over time, and so the most up-to-date data can be found under the 'Vaccine Outcomes' tab on the [COVID-19 Alberta Statistics webpage](#).

### What is the difference between vaccine efficacy and effectiveness?

'Vaccine efficacy' is the term used to describe the percentage reduction of disease in an immunized group of people compared to an unimmunized group in clinical trials where the study conditions are controlled. It does not describe whether an immunized person can still transmit the virus.

'Vaccine effectiveness' is the term used to describe how the vaccine works in the real world where conditions cannot be controlled, such as previous exposure to the virus, the immune status of the individual, and if people receive both doses that are required. Vaccine effectiveness will continue to be evaluated as the COVID-19 immunization program is rolled out.

### The vaccines are reported to have different efficacy rates against COVID-19. Is a vaccine with a higher reported vaccine efficacy better than a vaccine with a lower efficacy?

It may seem that 90% is better than 80% when looking at vaccine efficacy, however, with vaccines it is not that simple. Efficacy does not mean effectiveness. Efficacy refers to the difference in infection rates between a group that got a vaccine, and a group that did not. If there's no difference between the two groups, efficacy is zero.

Differences in efficacy numbers may be because the vaccines were tested in different locations, at different phases of the pandemic, against different strains and over different schedules (e.g., one vs. two doses over different timeframes). What is important to know is the COVID-19 vaccines are demonstrating a reduction in hospitalizations, deaths and severe disease. Health Canada would not approve a vaccine if they determined it to be insufficient to protect against disease.

## General Vaccine Safety

### How do we know the vaccines are safe when they were developed so quickly?

The production and approval of COVID-19 vaccines was not rushed. Instead, it was prioritized. Around the world, financial supports, open and transparent sharing of information amongst researchers, and adjustments in regulatory processes led to the relatively fast development of successful COVID-19 vaccines.

Usually Health Canada reviews vaccine submissions after all study results are available; this can take up to a year. An interim order approved by the federal Minister of Health provided the flexibility to expedite the review and authorization of vaccines. This allowed manufacturers to submit study data to Health Canada as it became available, shortening the time needed for the review process.

Review of the data from the clinical trials and of the manufacturing processes allows Health Canada to confirm that there are no significant safety concerns and that the vaccine will protect against disease. The review also assesses whether the benefits of the vaccine outweigh the risks, and whether the vaccine is manufactured to high quality standards. In order to support the independent review process for COVID-19 vaccines, Health Canada, dedicated more resources to the review process than usual and global partnerships have expedited the process.

### Can I get the COVID-19 vaccine if I have allergies or had a reaction to a vaccine in the past?

Individuals who have had a serious allergic reaction to another vaccine, drug or food should talk to their health care provider before receiving the vaccine. Individuals with a known severe hypersensitivity to any component of the vaccine (like polyethylene glycol - PEG - which is common in laxatives) or anaphylaxis to a previous dose of COVID-19 vaccine should not receive the vaccine.

Most people with allergies (e.g., to food, medication or substances not included in the vaccine) or those who have had a previous adverse reaction following immunization are able to receive the COVID-19 vaccine.

### What are the expected side effects from the vaccine?

Common short-term side effects of the COVID-19 vaccine include:

- Pain at the injection site lasting one to two days
- Fatigue, headache, muscle pain, chills, fever, and joint pain lasting approximately one day

These short-term mild or moderate side effects are very common to many vaccines and may affect more than 10 per cent of people. Some side effects, including fever, are more frequent after the second dose.

It is important to note that the common short-term side effects are not necessarily bad. Your immune system is functioning and building the necessary protections for you against this virus.

Over-the-counter pain or fever medication may be considered for the management of short-term side effects if they occur after immunization.

No serious safety concerns have been identified in clinical trials.

### **Is it recommended to receive the vaccine while pregnant or breastfeeding?**

There is no evidence that vaccines are harmful to those who are pregnant or breastfeeding or to the baby. In fact, pregnant people are strongly recommended to get fully immunized as they are at high risk of severe outcomes due to the COVID-19 Delta variant.

### **Do the COVID-19 vaccines impact fertility?**

[The vaccines do not impact fertility.](#) Confusion arose when a false report surfaced on social media saying that the spike protein on this coronavirus was the same as another spike protein, syncytin-1, involved in the growth and attachment of the placenta during pregnancy. The false report said getting the vaccine would cause the body to fight this spike protein and affect fertility. The two spike proteins are completely different.

### **Is it recommended to receive the vaccine if I am immunocompromised or have an autoimmune disorder?**

Evidence on the safety and immunogenicity of the COVID-19 vaccines in immunocompromised individuals continues to emerge. COVID-19 vaccines may be offered to individuals who are immunosuppressed due to disease or treatment and those with an auto-immune disorder if a risk assessment with their doctor determines that the benefits outweigh the potential risks.

Potential risks include:

- Immunocompromised persons may have a diminished immune response to the vaccine.
- There is a theoretical concern that mRNA vaccine may elicit an inflammatory response and possibly exacerbate existing autoimmune diseases. However, current applications of mRNA technology for COVID-19 vaccines have been optimized to reduce this risk.

Immunization for immunocompromised individuals should occur at a time when the individual is most likely to mount an immune response. Physician consultation is recommended regarding the timing of immunization based on the individual's treatment.

For information on additional doses for immunocompromised individuals, see the Additional Doses section below.

### **If an individual cannot receive Pfizer (Comirnaty) or Moderna (SpikeVax) due to a contraindication to the vaccine, can they receive AstraZeneca (Vaxzevria) vaccine?**

Yes. If an individual 18 years of age and older has a contraindication to the mRNA vaccine such as hypersensitivity to a component of the mRNA vaccine or anaphylaxis to a previous dose, the AstraZeneca (Vaxzevria) COVID-19 vaccine can be requested. Please contact Health Link at 8-1-1 to be assisted with where you can access this vaccine closest to your location.

## Does Alberta Health track adverse events following immunization?

Alberta has a central reporting system for reporting adverse reactions following immunization (AEFIs) that allows Alberta Health Services and Alberta Health to rapidly assess any potential risks and take immediate action when necessary.

Active surveillance is another component of tracking AEFIs that involves proactively collecting information about adverse events from vaccine recipients. Albertans who receive COVID-19 vaccine may be asked to take part in a surveillance study that is looking to determine how often adverse events occur after receiving a COVID-19 vaccine. For more information visit <https://canvas-covid.ca/>.

Alberta Health will not hesitate to take action if any safety concerns are identified. Emerging information will be communicated promptly to Canadians and Albertans if needed, such as new information on risks, or changes to who can be immunized. The total number of AEFIs reported to-date can be found here: <https://www.alberta.ca/covid19-vaccine.aspx>.

## Is there a way to access financial support if I think I or a family member has experienced a serious and permanent injury as a result of receiving a COVID-19 vaccine?

A national vaccine injury compensation program was officially launched on June 1<sup>st</sup>.

The Program will provide financial support to you if it is determined that you have experienced a serious and permanent injury after receiving a Health Canada-authorized vaccine, administered in Canada on or after December 8, 2020. Financial support is also available to you if you are the dependent or succession of an individual who has died after immunization.

Supports provided may include:

- income replacement
- payment for injuries
- death benefits including funeral expenses
- other eligible costs, such as uncovered medical expenses

For more information, please visit [www.vaccineinjurysupport.ca](http://www.vaccineinjurysupport.ca).

## AstraZeneca (Vaxzevria) Vaccine Safety

### Can I get COVID-19 from the AstraZeneca (Vaxzevria) COVID-19 vaccine?

No. This vaccine uses a harmless vector virus to carry the genetic code for the COVID-19 virus spike protein into the cell. The vector virus has been modified to prevent replication and will not make you sick.

### What is Vaccine-Induced Immune Thrombotic Thrombocytopenia (VITT)? Is there a test or treatment for it? Any risk factors?

The United Kingdom, European Union, Scandinavian countries and Canada have reported rare cases of serious blood clots, including blood clots in the brain following the AstraZeneca (Vaxzevria) COVID-19 vaccine. The cases of these blood clots reported to date have two important features: the majority have occurred between 4 and 28 days after immunization, and they are associated with low platelets (tiny blood cells that help form blood clots to stop bleeding). This rare adverse event is being referred to as “Vaccine-Induced Immune Thrombotic Thrombocytopenia” (VITT).

Based on cases identified to date in Canada, the rate of VITT has been estimated at approximately one case in 55,000 first doses of vaccine. The rate of VITT after a second dose is not clear yet, but data from the United Kingdom currently suggests it is much rarer than after first doses – roughly one case per 600,000 doses were reported after 9 million second doses were given. It is possible though, that these estimated rates could change over time. A similar safety signal has not been seen with mRNA vaccines. At this time, no risk factors have consistently been identified in patients who develop VITT.

Testing and treatment guidelines have been developed for VITT (also referred to as VIPIT) (<https://covid19-sciencetable.ca/sciencebrief/vaccine-induced-prothrombotic-immune-thrombocytopenia-vipit-following-astrazeneca-covid-19-immunization/>). Healthcare professionals will be alert to these signs and symptoms and consult a hematologist if needed.

AstraZeneca (Vaxzevria) vaccine may be considered for individuals 18 years of age and older for whom mRNA vaccines are contraindicated (e.g. allergy to PEG), who decline mRNA COVID-19 vaccines, or as a second dose for individuals who have received AstraZeneca (Vaxzevria) to complete a two dose series.

### What are the symptoms of VITT?

The symptoms of VITT include:

- severe headache that does not go away
- seizure
- difficulty moving part(s) of the body
- new blurry vision that does not go away
- difficulty speaking
- shortness of breath
- chest pain
- severe abdominal pain
- new severe swelling, pain, or colour change of an arm or a leg

Seek immediate medical attention if you develop any of these symptoms and have been immunized with the AstraZeneca (Vaxzevria) vaccine less than 42 days ago.

### What is Capillary Leak Syndrome?

Capillary leak syndrome (CLS) is a rare disease that causes fluid leakage from small blood vessels (capillaries), which can result in the swelling of the arms and legs, sudden weight gain, low blood pressure, thickening of the blood, and low blood levels of albumin (a blood protein that helps carry various substances throughout your body, including hormones, vitamins, and enzymes). Symptoms are often associated with feeling faint (due to low blood pressure). Patients with an acute episode of CLS require an urgent medical assessment. Intensive supportive therapy is usually warranted for this life-threatening condition.

CLS has been reported following immunization with AstraZeneca (Vaxzevria) vaccine. As of June 18<sup>th</sup>, one case of CLS following immunization with the AstraZeneca (Vaxzevria) COVID-19 vaccine has been reported in Canada among more than 2,250,000 doses of AstraZeneca (Vaxzevria)/COVISHIELD vaccines administered. This adverse event has not been identified following receipt of an mRNA COVID-19 vaccine.

Individuals with a previous history of CLS should not receive the AstraZeneca (Vaxzevria) vaccine.



## mRNA Vaccine Safety

### Can an mRNA vaccine affect my DNA?

No. mRNA vaccines do not affect, interact with or alter your DNA in any way. The mRNA in the vaccine is broken down quickly by normal cellular processes after the harmless genetic instructions have been used to make the spike protein. In a cell, DNA is in the nucleolus, and the mRNA works outside of the nucleolus in the cytoplasm. It is not possible for the mRNA to enter the nucleolus, as this process would require many enzymes that the cell or vaccine does not have.

### Can I get COVID-19 from an mRNA vaccine?

No. The mRNA vaccine does not contain any live virus in it, so cannot cause COVID-19 infection. COVID-19 is coated in spike proteins that allow it to easily infect human cells and replicate. The vaccines instruct your body to produce spike proteins that teach your immune system to recognize and fight off the spikes on the coronavirus. Once your immune system recognizes the virus, it gets rid of all parts of the vaccine naturally.

### What do I need to know about myocarditis/pericarditis following immunization with mRNA COVID-19 vaccines?

A small number of cases of myocarditis (inflammation of the heart muscle) and/or pericarditis (inflammation of the lining around the heart) following immunization with COVID-19 vaccines have been reported [in Canada](#) and internationally. These cases are very rare and most reported cases to date have followed immunization with an mRNA vaccine.

Emerging reports of myocarditis and pericarditis following immunization with mRNA COVID-19 vaccines indicate that:

- Cases are more commonly reported following the second dose of an mRNA vaccine.
- Symptom onset typically occurs within a week after immunization (4-7 days).
- Cases were reported more often in adolescents and young adults under 30 years of age, and more in often males than females.
- Most cases reported to date experienced mild illness, responded well to medical treatment and rest, and their symptoms improved quickly.

Assessments from both Israel and the United States have indicated that there is a likely association between receipt of the COVID-19 mRNA vaccines and myocarditis/pericarditis; however, the benefits of the COVID-19 mRNA vaccines continue to outweigh their potential risks.

Based on assessments conducted by Canada's National Advisory Committee on Immunization and the Alberta Advisory Committee on Immunization, Alberta Health continues to recommend that all Albertans 12 years of age and older get the COVID-19 vaccine. Getting immunized is the best way to help protect individuals and communities from COVID-19.

As part of ongoing COVID-19 vaccine safety efforts, Alberta Health is closely monitoring myocarditis and pericarditis following immunization with a COVID-19 vaccine, and will continue to share information as it becomes available.

Additional information for Albertans can be found [here](#), and for healthcare providers can be found [here](#).

## What myocarditis/pericarditis-related symptoms should I be watching for?

Watch for the following symptoms: chest pain, shortness of breath, feelings of having a fast-beating, fluttering or pounding heart.

Seek medical care if you have any of these symptoms within a week after COVID-19 immunization. Tell the healthcare provider about your recent COVID-19 immunization.

Myocarditis and/or pericarditis are not uncommon conditions and there are many potential causes such as a viral infection, including the virus that causes COVID-19.

## I experienced myocarditis and/or pericarditis after my first dose of COVID-19 mRNA vaccine. What should I do?

It is still unclear if you may be at increased risk of heart related reactions after a second dose of the vaccine. Investigation into this continues in Canada and internationally.

If you experienced myocarditis and/or pericarditis after your first dose of COVID-19 mRNA vaccine, you should discuss decisions around the second dose, including timing, with your primary healthcare provider.

As a precaution, it is recommended that most individuals who experienced myocarditis and/or pericarditis after a first dose of an mRNA vaccine should wait to get their second dose until more information is available. However, for some individuals with specific health issues, it may be better not to wait to get the second dose. That is why it is important to talk to your healthcare provider to see what is best for you.

## Are individuals with a history of previous myocarditis, pericarditis or other heart problems at a higher risk of myocarditis and/or pericarditis following COVID-19 vaccine?

It is not yet known if individuals with a history of previous myocarditis, pericarditis or other heart problems are at higher risk of vaccine associated myocarditis and/or pericarditis. Investigation into this continues in Canada and internationally. Individuals with a history of previous myocarditis, pericarditis or other heart problems can discuss decisions about COVID-19 immunization with their healthcare provider.

## Vaccine ingredients

The vaccines available for use contain ingredients that help the vaccine work in the body and protect the stability of the vaccine before it is administered. The vaccines do not contain antibiotics or preservatives.

One non-medicinal ingredient in both the Moderna (SpikeVax) and Pfizer (Comirnaty) vaccines may cause a hypersensitivity reaction. This ingredient is polyethylene glycol (PEG). This ingredient is also found in cosmetics, cough syrup, skin products and some food and drinks. When you are being immunized or offering immunization, potential allergic reactions will be discussed.



Additional ingredient information:

### **Pfizer (Comirnaty)**

Lipid nanoparticles (these help the mRNA enter the cell):

- ALC-0315 = (4-hydroxybutyl) azanediyl)bis(hexane-6,1-diyl)bis(2-hexyldecanoate)
- ALC-0159 = 2-[(polyethylene glycol)-2000]-N,N-ditetradecylacetamide

Other Lipids (provide structural integrity of the nanoparticles):

- 1,2-distearoyl-sn-glycero-3-phosphocholine
- cholesterol

Salts (these help maintain the PH of the vaccine):

- bibasic sodium phosphate dihydrate
- monobasic potassium phosphate
- potassium chloride
- sodium chloride

Other:

- sucrose (this protects the nanoparticles when frozen)
- water for injection

### **Moderna (SpikeVax)**

Lipid nanoparticles (these help the mRNA enter the cell):

- PEG2000-DMG LSM-102, 1,2-dimyristoyl-rac-glycero-3-methoxypolyethyleneglycol
- 1,2-distearoyl-sn-glycero-3-phosphocholine [DSPC])
- Cholesterol
- Lipid SM-102

pH stabilizers (help maintain the PH of the vaccine):

- acetic acid
- sodium acetate
- tromethamine
- tromethamine hydrochloride

Other:

- sucrose (protects the nanoparticles when frozen)

### **AstraZeneca (Vaxzevria)**

Essential Amino Acids:

- L-Histidine
- L-Histidine hydrochloride monohydrate

Stabilizer:

- Magnesium chloride hexahydrate
- Polysorbate 80
- Ethanol
- Disodium edetate dihydrate (EDTA)

Others:

- Sucrose
- Sodium chloride
  - Water for injection

## Other COVID-19 Vaccine Questions

### Do the vaccines work against the COVID-19 variant strains?

Mutations in the COVID-19 virus are expected, resulting in variant strains of COVID-19 to emerge. At this time, there are several variant strains circulating around the world, and data about the efficacy and effectiveness of the licensed COVID-19 vaccines against the variants of concern (VOC) is evolving. Vaccine manufacturers, public health agencies, non-governmental organizations and research institutes are conducting studies to determine whether current vaccines work against these variants. We are watching this information closely.

To date, evidence has emerged demonstrating that the mRNA and AstraZeneca (Vaxzevria) vaccines offer good protection against the Alpha VOC (B.1.1.7 – first discovered in the UK). Furthermore, there is emerging evidence that all three vaccines offer good protection against infection with the Delta VOC (B.1.617 – first discovered in India) after the second dose and good protection against hospitalization after the first dose. Both mRNA vaccines offer good protection against the Beta VOC (B.1.351 – first discovered in South Africa) after two doses, however published data suggests that the AstraZeneca (Vaxzevria) vaccine offers little protection against the Beta VOC.

Based on Alberta-specific data, vaccine effectiveness in those who are fully immunized is estimated to be 91% against symptomatic infection with the Alpha variant, 89% against the Gamma VOC (P.1 – first discovered in Brazil) and 85% against the Delta VOC. Vaccine effectiveness in the province may change over time, and so the most up-to-date data can be found under the 'Vaccine Outcomes' tab on the [COVID-19 Alberta Statistics webpage](https://open.alberta.ca/publications/covid-19-vaccine-questions-and-answers).

### I have recovered from COVID-19, should I still be immunized?

Yes. The COVID-19 vaccine is recommended for those who have had and recovered from COVID-19 infection as it is unknown how long immunity may last after recovering from COVID-19.

### Will the vaccines prevent me from getting COVID-19?

Yes. The vaccines that have been licensed in Canada are demonstrating a high efficacy in preventing COVID-19 disease. The vaccines are used both for preventing the occurrence of COVID-19 disease and diminishing the severity of the disease.

At this time, based on the evidence submitted to Health Canada, it remains unknown how long the protection will last. The manufacturers are following the participants of clinical trials to assess their protection over time. International jurisdictions, Health Canada and Alberta Health will evaluate the data and promptly update the product information about how long the protection lasts and whether there may be a need for additional doses of the vaccine.

### Can immunized people spread the virus to others?

There is limited evidence on whether someone who received the vaccine is able or not able to spread the virus. This will be monitored as more people in the community receive the vaccine. Everyone must continue to follow public health measures, regardless of their COVID-19 immunization status, to protect themselves, their loved ones, as well as people and communities at risk of more severe disease or outcomes from COVID-19.

### Can immunized people “shed” coronavirus spike proteins and affect others including pregnant women due to immunization?

No. It is not possible for an immunized person to shed spike proteins. It is also not possible for an immunized person to shed the virus due to immunization, as the vaccines do not contain any live virus. Pregnant women are at a high risk for developing severe illness when exposed to COVID-19 and they can reduce the possibility of exposure to the virus that causes COVID-19 when those around them are immunized.

### **Can an immunized person get COVID-19?**

The currently authorized COVID-19 vaccines have demonstrated safety and high efficacy against symptomatic laboratory-confirmed COVID-19 disease within one to two weeks after receiving the full two-dose series.

As the vaccines are not 100% effective, they may not work for a small percentage of recipients. A 90% vaccine efficacy suggests 10 in 100 immunized people is not protected, even after the two-dose immunization. In addition, people who are exposed to COVID-19 virus before their body mounts an adequate level of protection can also get infected. Vaccine effectiveness will continue to be evaluated as the COVID-19 immunization program is rolled out.

### **Can I test positive for COVID-19 due to the vaccine?**

No. The mRNA vaccine or viral vector-based vaccines do not contain the virus that causes COVID-19. It has only genetic instructions on how the cell can make one single coronavirus protein - spike protein. Therefore, this vaccine cannot make the virus and then lead to disease. Immunization will not result in a positive PCR test or a rapid molecular or antigen test.

### **Could the antibodies from the COVID-19 vaccine result in a false positive test result?**

There are two kinds of tests currently available for COVID-19:

- A test for active infection (diagnostic) that tells you if you have a current COVID-19 infection. This is done using a swab from your nose or throat, or a saliva sample. These tests are expected to continue to perform accurately in immunized individuals.
- An antibody (serology) test tells you if, at some point, you were exposed to the virus and had a COVID-19 infection. These tests can also identify if a person was immunized. They are done on a blood sample and not used to diagnose a current COVID-19 infection.

### **How long after getting a vaccine will I be protected against COVID-19? How long does the protection last?**

The vaccines available show protection starting two to three weeks after the first dose. One dose of vaccine can offer a good level of protection against symptomatic disease. Peak efficacy against symptomatic COVID-19 disease is achieved about 2 weeks after the second dose.

At this time, based on the evidence submitted to Health Canada, it remains unknown how long the protection will last. Health Canada and Alberta Health will evaluate the data and promptly update the product information about how long the protection lasts and whether there may be a need for additional doses of the vaccine.

### **With everything we do not know about the COVID-19 vaccines, why should I be immunized?**

To stop the spread of COVID-19, we all need to be immunized as soon as we are eligible to receive COVID-19 vaccine. The vaccines currently available in Canada protect against severe disease, hospitalizations and deaths.

Delaying or refusing immunization carries serious risks, including hospitalization, ICU admission, and death and may extend the need for public health measures to continue.

Health Canada has completed thorough reviews of the data from the clinical trials and of the manufacturing processes. This review process allowed Health Canada to confirm that there are no significant safety concerns and that the vaccines protect against disease. The review also determined that the benefits of the vaccines outweigh the risks, and that the vaccines are manufactured to high quality standards.

## Eligible Populations

### Who can receive COVID-19 vaccine?

All Albertans born in 2009 or are 12 years of age and older are now eligible to receive COVID-19 vaccine. Children 12 to 17 years of age can receive either the Pfizer (Comirnaty) or the Moderna (SpikeVax) vaccine. Appointments can be booked through the [Alberta Vaccine Booking System](#) or by calling Health Link at 811.

Non-Alberta residents who live, work, go to school or visiting Alberta are eligible for COVID-19 vaccine. Those without an Alberta healthcare number need to receive the vaccine from AHS.

### When will children under the age of 11 (born in 2010 or later) be eligible for immunization with the COVID-19 vaccine?

Clinical data on the safety and efficacy of the COVID-19 vaccines in individuals under 12 years of age is emerging. Manufacturers are currently conducting clinical trials in children younger than 12, which will help inform recommendations. For example, both Pfizer (Comirnaty) and Moderna (SpikeVax) are conducting clinical trials of their vaccines in groups of children as young as 6 months. When clinical trial data becomes available, the National Advisory Committee on Immunization will make recommendations for the use of COVID-19 vaccines in children under the age of 12.

Alberta Health is starting to plan the COVID-19 immunization program rollout for younger children, however, timeframes are dependent on the results of the clinical trials. Clinical trial data is expected towards late fall.

### Why are Albertans who live in Lloydminster being offered vaccine by Saskatchewan Health?

There is an existing agreement (Memorandum of Understanding) between Alberta Health and Saskatchewan Health for health services for the City of Lloydminster. Saskatchewan Health is responsible for providing public health services to residents in the City of Lloydminster, including all Alberta residents. This includes immunizations services. Differences in the provinces and territories COVID-19 vaccine rollout are common as each uses their own data and information to determine vaccine prioritization. More information on immunization actions for Albertans who reside in Lloydminster can be found [here](#).

## Second Doses

### **I received an mRNA vaccine as my first dose, what COVID-19 vaccine will I receive as a second dose?**

If you received an mRNA vaccine for your first dose, you will receive the same mRNA vaccine for your second dose.

If the same mRNA vaccine is not readily available or unknown, another mRNA vaccine can be considered interchangeable and should be offered to complete the vaccine series.

If an individual 18 years of age and older has a contraindication to both mRNA vaccines such as hypersensitivity to a component of the mRNA vaccines or anaphylaxis to a previous dose, the AstraZeneca (Vaxzevria) COVID-19 vaccine can be requested as a second dose. Please contact Health Link at 8-1-1 to be assisted with where you can access this vaccine closest to your location.

### **I received the AstraZeneca (Vaxzevria) vaccine as my first dose, what COVID-19 vaccine will I receive as a second dose?**

If you received the AstraZeneca (Vaxzevria) vaccine for your first dose, you can choose to receive either the AstraZeneca (Vaxzevria) vaccine or an mRNA vaccine for your second dose. Both options provide additional protection, and count as completing your two-dose vaccine series.

For more information to assist in deciding which vaccine to receive as a second dose, see [Second dose for AstraZeneca recipients](#).

### **When will I receive the second dose of COVID-19 vaccine?**

All Albertans 12 years of age and older can now receive their second dose of COVID-19 vaccine.

- If you received an mRNA vaccine for your first dose, book your second dose 4 weeks after your first dose.
- If you received the AstraZeneca (Vaxzevria) vaccine for your first dose, book your second dose at least 8 weeks after the first dose.

Immunization for immunocompromised individuals should occur at a time when the individual is most likely to mount an immune response. Physician consultation is recommended regarding the timing of immunization based on the individual's treatment.

### **If I do not receive my second dose within the recommended timeframe, should I still receive that second dose?**

Yes. If the second dose of a COVID-19 vaccine is delayed beyond the recommended timeframe, the second dose should still be administered as soon as possible. A COVID-19 vaccine series does not need to be restarted.

COVID-19 vaccine is still recommended for individuals who have had COVID-19 infection to ensure longer term immunity.

## Additional Doses

### Who is eligible for additional doses of COVID-19 vaccine?

While 2 doses provide excellent protection for most people, third doses are now available for eligible groups at highest risk of severe outcomes:

- immunocompromised Albertans ages 12 and older
- residents of seniors' supportive living facilities

#### Immunocompromised

- Consult your health care providers first to discuss your personal risks and benefits.
- Eligible immunocompromising conditions include:
  - solid organ transplant recipients
  - hematopoietic stem cell transplants recipients
  - malignant hematologic disorders and non-hematologic malignant solid tumors
  - chronic kidney disease on dialysis
  - receipt of chimeric antigen receptor (CAR)-T-cell therapy
  - primary immunodeficiency (e.g., DiGeorge syndrome, Wiskott-Aldrich syndrome)
  - advanced untreated HIV infection and those with acquired immunodeficiency syndrome
  - active treatment with the following categories of immunosuppressive therapies:
    - anti-B cell therapies (monoclonal antibodies targeting CD19, CD20, CD22 and CD52),
    - high-dose systemic corticosteroids,
    - alkylating agents,
    - antimetabolites,
    - tumor-necrosis factor (TNF) inhibitors, or
    - agents that are significantly immunosuppressive.
- When to book: Must wait at least 8 weeks after second dose.
- How to book: Use the [Alberta Vaccine Booking System](#) or call Health Link at 811

#### All Residents of seniors' supportive living

- AHS is coordinating additional COVID-19 doses for all residents of seniors' supportive living with other immunization partners as needed at least 5 months after their second dose.
- Eligible residents of supportive living facilities will receive their third doses at their facilities.

#### Those that received a mixed series or a series with AstraZeneca (Vaxzevria)/COVISHIELD vaccine

Albertans who are planning to travel to jurisdictions that do not recognize certain COVID-19 vaccine series are eligible for additional vaccine doses to meet the vaccine requirements at their destination. It is up to the traveler to know the COVID-19 vaccine requirements for their destination.

Currently, there is insufficient clinical data on the safety and efficacy of additional doses. Albertans who choose to receive an additional dose do so at their own risk and must provide the immunizer with informed consent.

The interval between the second dose of a completed series and the additional dose must be at least 28 days or longer.

Albertans who choose to receive an additional vaccine dose for travel purposes can access appointments via the [Alberta Vaccine Booking System](#) or by calling Health Link at 811. Proof of upcoming travel is not required to receive an additional dose.



## **Will other groups be eligible for additional doses in the future?**

Alberta Health continues to review the available evidence, epidemiology and advice from expert advisory bodies regarding the use of additional doses in other populations.

## **Will all Albertans need a booster dose?**

Alberta Health continues to review the available evidence, epidemiology and advice from expert advisory bodies regarding booster doses for the general population.

## **Do I need to get bloodwork (serology) done after two doses of COVID-19 vaccine to determine if I am protected by the vaccine?**

No, it is not recommended that bloodwork be completed to determine if you are protected by the COVID-19 vaccine. It is still unknown what antibody level correlates with protection against COVID-19, and serology testing in many labs may also not detect antibodies developed as a response to vaccine. Serology testing should not be used as evidence to inform whether vaccine doses have been effective.

## **Vaccine Access**

### **How will I know when I am eligible for vaccine and where to access it?**

All Albertans born in 2009 or are 12 years of age are now eligible for COVID-19 vaccine and can access the vaccine through AHS clinics, participating pharmacies and some physician offices. Please see [COVID-19 Vaccine Program](#) for information on COVID-19 vaccine eligibility and access.

### **Can I request Alberta Health Services or a pharmacist to visit my apartment building or condominium complex for immunization services?**

No, Alberta Health Services is only providing outreach immunization services to locations where transport of Albertans is not possible due to underlying health conditions. Albertans who reside in senior apartments or condominiums are encouraged to book an appointment either through Health Link (8-1-1) or by using the [Alberta Vaccine Booking System](#). Family members and friends can assist their loved ones in making these appointments. If transportation supports are needed, Albertans are encouraged to contact 2-1-1 and assistance may be able to be provided.

When it is your turn to be immunized, please bring your Alberta Health Care card or another form of identification that provides your birth date. Picture ID is also requested but not required.

### **If I receive a first dose of COVID-19 vaccine outside of Alberta, will I be able to receive the second dose?**

Anyone who has received a first dose of COVID-19 vaccine outside the province will be able to receive their second dose in the province.

### **Are international students eligible to receive the vaccine?**

Yes, students are now eligible. The universal COVID-19 immunization program is in place, and individuals who are living, working, or going to school in Alberta are eligible for the COVID-19 vaccine free of charge.

## Is anyone ineligible for COVID-19 immunization? Who should not get the COVID-19 vaccine?

The Pfizer (Comirnaty) and Moderna (SpikeVax) vaccines are licensed for anyone 12 years of age and older, and the AstraZeneca (Vaxzevria) vaccine is licensed for anyone 18 years of age and older. It will be offered to anyone in these age groups.

Anybody with a current infection of COVID-19 should wait to be immunized until the isolating period is over, meaning 10 days from the start of symptoms or until symptoms have improved and they have been non-feverish for at least 24 hours without the use of fever-reducing medications, whichever is longer.

In addition, individuals with a known severe hypersensitivity to any component of the vaccine (like polyethylene glycol - PEG - which is common in laxatives) or anaphylaxis to a previous dose of COVID-19 vaccine.

## Will COVID-19 vaccine be mandatory in Alberta?

COVID-19 immunization will not be mandated by the Government of Alberta, but it is highly encouraged and recommended. The Government of Alberta recognizes immunization as one of the most important ways to protect and promote the health of Albertans. When immunization schedules are followed, vaccines are highly effective at preventing disease in those who receive them. We choose an approach that is collaborative rather than mandatory because we want to encourage conversations on the benefits of immunization, while still respecting Albertans' right to make informed decisions about their own health.

Albertans may need to prove immunization status if travelling or accessing businesses (as per the [Restrictions Exemption Program](#)). Check with the business or event organizer to confirm requirements.

See the following medical exemptions and/or deferrals under the Restrictions Exemption Program:

### Medical Exemptions

The following conditions constitute a medical exemption from COVID-19 immunization:

- Had an anaphylactic reaction following the first dose of a COVID-19 vaccine, has been assessed by an allergist/immunologist, and future doses of any COVID-19 vaccine (viral vector or mRNA) are contraindicated,
- Developed a serious adverse event following COVID-19 immunization (e.g., Guillain-Barré syndrome, Acute Disseminated Encephalomyelitis (ADEM)) and a MOH has determined that future doses of COVID-19 vaccine are contraindicated, or
- Had an anaphylactic reaction to a component of COVID-19 vaccine that restricts administration of any COVID-19 vaccines available in Canada.

In addition, individuals who are participating in COVID-19 vaccine trials (e.g., Medicago) are eligible for a medical exemption.

### Medical Deferrals

Medical deferrals (postponement) of the second dose of COVID-19 vaccine may be indicated in certain situations. If deferral is recommended, a medical exemption letter can be provided explicitly stating the length of time for which the exemption is valid.

Examples of reasons for medical deferrals include:

- Developed myocarditis following the first dose of COVID-19 vaccine and it is recommended to defer the second dose of mRNA vaccine until more data is available, or
- Developed a serious adverse event following COVID-19 immunization (e.g., Bell's palsy) following immunization and MOH has recommended deferral of second dose until individual has recovered.
- Had an anaphylactic reaction following the first dose of a COVID-19 vaccine and awaiting allergist assessment.

- Solid organ transplant recipients or Hematopoietic Stem Cell Transplant (HSCT) recipients post transplant until clearance is received to resume immunization.

Almost all Albertans can receive a COVID-19 vaccine, and should. Religious and philosophical exemptions are not permitted.

For more information, see Alberta Health's [COVID-19 Immunization Medical Exemption Policy](#).

### **Can my employer require me to be immunized?**

Yes, private employers can require employees to be immunized as part of their company policy or as a required precondition of employment.

Some employers have occupational health and safety policies that require some immunizations as a condition of employment to protect themselves and others around them. Employers may ask that employees present their immunization records, to have them on file to determine who is at risk of infection in the event of an outbreak or if an individual is exposed to someone with a communicable disease. It is recommended that employees speak with their employer about their specific occupational health and safety immunization policy.

### **Where can I find information on the community pharmacies offering COVID-19 vaccine?**

A list of participating pharmacies can be found at [Alberta Blue Cross](#) or visit [www.alberta.ca/vaccine](http://www.alberta.ca/vaccine) for more information.

### **What will clinics do to protect clients and healthcare workers from COVID-19 during immunization?**

All healthcare providers follow [guidelines](#) to protect you and themselves from COVID-19. This includes:

- Screening clients and staff for illness and exposure to COVID-19;
- Setting up the clinic and using an appointment-based system to make sure that everyone can keep physical distance;
- Enhanced environmental cleaning;
- Using personal protective equipment (PPE) such as masks; and
- Requiring hand washing or the use of hand sanitizer when clients arrive.

### **Will I have to pay for the vaccine? If I do not want to wait to be included in the populations being offered the vaccine, can I buy the vaccine privately?**

No. The vaccines are available to eligible Albertans at no additional charge. There is no vaccine available for private purchase at this time.

## **Post-Immunization**

### **Will I have to continue to follow public health measures if I am immunized?**

Alberta has declared a state of public health emergency. COVID-19 cases and hospitalizations continue to rise, largely in unimmunized Albertans; however, [new public health measures](#) have been implemented for both unimmunized and fully immunized people to protect the health care system, stop the spread, and increase immunization rates.

## Will I have to quarantine if I received the vaccine and then am a close contact of someone who was positive for COVID-19?

Quarantine is no longer legally required for close contacts of a positive case, unless directed to do so by local public health officials. However, if you are a close contact of a positive case and are unimmunized it is recommended that you quarantine for 14 days following your last contact.

## If I am fully immunized, will I have to quarantine and meet testing requirements when returning to Canada from an international destination?

As of July 5, you may qualify for certain federal exemptions to quarantine and testing requirements if you:

- are eligible to enter Canada,
- are asymptomatic,
- meet the [Government of Canada requirements of fully vaccinated travellers](#), and
- meet all other [entry requirements](#), including entering your information in ArriveCAN before arrival.

Those who meet the requirements may be exempt from:

- quarantine
- hotel stopover (for air travellers)
- day-8 testing requirement

You still need to do a test pre-departure (within 72 hours) and upon arrival. If your arrival test is positive, you must follow the isolation requirement. For more information, see the [Government of Canada website](#).

## What do I do if I experience the expected vaccine reactions that are similar to the symptoms of COVID-19 that require isolation?

Individuals who receive the COVID-19 vaccine may experience some side effects. These reactions are most often mild, develop within 24 hours, and could last 24 to 48 hours. Many of the reactions that occur are similar to the symptoms of COVID-19 infection such as:

- fever and/or chills,
- feeling tired,
- headache or body aches,
- nausea

Individuals should monitor themselves for these symptoms. Individuals who develop the above symptoms should stay home. If the symptoms develop within 24 hours of receiving the COVID-19 vaccine and resolve within 48 hours after starting, the individual can return to normal activities, unless they have been instructed to quarantine or isolate for other reasons by Alberta Health Services.

If symptoms persist longer than 48 hours and are not related to a pre-existing illness or health condition, individuals must continue to stay home and contact Health Link at 8-1-1 or complete the online COVID-19 online self- assessment tool for testing.

If testing is not done, adults with fever, cough, runny nose, sore throat or shortness of breath are to remain in isolation at home and stay away from others for 10 days, or until symptoms improve and they have been without a fever for at least 24 hours without the use of fever-reducing medications, whichever is longer. Individuals with any other symptoms on the COVID-19 symptom list should remain home until symptoms resolve.

# Vaccine Records and Proof of Immunization

## How do I access my vaccine record?

### Online

Albertans 12 years of age and older can get a card-sized vaccine record through the new express system at [alberta.ca/CovidRecords](https://alberta.ca/CovidRecords).

Work is underway to provide proof of immunization with an Alberta-verified QR code soon. We are monitoring the experiences of other provinces, and privacy and security concerns are being taken into consideration.

Currently, there are no official vaccine records issued by the Government of Alberta that include a QR code or that are scannable. We only recommend using Alberta's government-issued records, available on [alberta.ca/CovidRecords](https://alberta.ca/CovidRecords) or [MyHealth Records](https://myhealthrecords.ca), as well as the paper record received after getting a vaccine at an AHS clinic, pharmacy or physician's office.

Albertans 14 and older can view their verified health records, including all vaccines, lab tests and medications, through [MyHealth Records](https://myhealthrecords.ca), an online tool that lets you view your personal health information from any computer, tablet or smartphone. To sign up, follow the instructions on the website.

[MyHealth Records](https://myhealthrecords.ca) will be automatically updated within 2 to 3 weeks of the doses being administered if you were immunized in Alberta. From your account, you can:

- print a paper copy of your COVID-19 immunization record
- download and use the app to show or take a screenshot of your record
  - Work is underway to add a QR code to the app as well as on the printable card

### Paper records

[Participating Registry Agents](https://alberta.ca/ParticipatingRegistryAgents) can print out your vaccine card from [alberta.ca/CovidRecords](https://alberta.ca/CovidRecords) at no cost starting September 21.

## How do I provide proof of immunization?

Albertans may need to be able to prove immunization status if travelling or accessing businesses. While COVID-19 vaccines are strongly encouraged, they are not mandatory under Alberta law.

### Businesses and events

- To enter spaces participating in the [Restrictions Exemption Program](https://alberta.ca/RestrictionsExemptionProgram), people aged 12 and older can provide proof of immunization, documentation of a medical exemption or proof of a privately-paid negative test result completed within 72 hours.
- Check with the business or event organizer to confirm requirements.
- Albertans can show a paper or [digital copy](#) of their vaccine record. Plan ahead for busy events by saving a copy on your phone or printing it out. You should receive a paper record at your immunization appointment; however, your vaccine record can also be accessed:
  - online through the new express system at [alberta.ca/CovidRecords](https://alberta.ca/CovidRecords) or from [MyHealth Records](https://myhealthrecords.ca),
  - in person at a participating registry agent, or
  - if you require another paper copy, it can be requested through your immunization provider.

### International travel

- Some foreign countries may require Canadian travellers to provide proof of immunization to visit. Check the policies of individual countries, state/local governments, cruise lines and events before travelling. Learn more about [travelling abroad during COVID](#).
- Albertans have been successfully travelling by using their paper vaccine record and by using [MyHealth Records](#).
- The federal government is working with provinces and territories to develop an official federal vaccine credential for international travel. A launch date has not been announced.

### Inter-provincial travel

- Some provinces may require travellers from Alberta to provide proof of immunization to visit or access certain businesses or services. Check before you go.
- Albertans can show a paper or digital copy of their vaccine record along with their government-issued ID (driver's licence).
- Alberta does not require proof of immunization from visitors arriving from other parts of Canada.

## Is it possible to be medically exempted from receiving a COVID-19 vaccine or to defer a dose of COVID-19 vaccine?

Almost all Albertans can receive a COVID-19 vaccine, and should. Some individuals may be eligible for a medical exemption and/or deferral as per the Restrictions Exemption Program. Religious and philosophical exemptions are not permitted. See below for more information.

### Medical Exemptions

The following conditions constitute a medical exemption from COVID-19 immunization:

- Had an anaphylactic reaction following the first dose of a COVID-19 vaccine, has been assessed by an allergist/immunologist, and future doses of any COVID-19 vaccine (viral vector or mRNA) are contraindicated,
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- Had an anaphylactic reaction following the first dose of a COVID-19 vaccine and awaiting allergist assessment.
- Solid organ transplant recipients or Hematopoietic Stem Cell Transplant (HSCT) recipients post transplant until clearance is received to resume immunization.

For more information, see Alberta Health's [COVID-19 Immunization Medical Exemption Policy](#).



## For Healthcare Practitioners

### **How do I have a positive conversation with my patient/client who may have concerns about receiving the COVID-19 vaccine?**

Be open-minded, respectful and empathetic. Establish an environment where the patient/client can freely discuss their concerns and ask questions about immunization without feeling judged. Identify and understand the patient/client's concerns by actively listening, repackaging their statements back to them and asking open-ended questions. You can then provide tailored information related to the concerns or misconceptions they might have. Trying to convince them by simply providing the facts about immunization may backfire and make the patient/client even more hesitant.

For more information, see [Motivational interviewing: A powerful tool to address vaccine hesitancy](#).

### **How do I assist my patient/client in deciding which vaccine to receive as a second dose if they received the AstraZeneca (Vaxzevria) vaccine as their first dose?**

For information that can be used to assist your patient/client in deciding which vaccine to receive as a second dose, see [Second dose for AstraZeneca recipients - information for health care providers](#).

### **I am a student completing a clinical placement, am I eligible for vaccine?**

Yes, students completing a clinical placement are now eligible. The universal COVID-19 immunization program is in place, and individuals who are living, working, or going to school in Alberta are eligible for the COVID-19 vaccine free of charge.

### **Will healthcare workers who are not immunized be excluded from work if they do not get immunized or if there is a COVID-19 Outbreak in the workplace?**

Immunization is voluntary for all Albertans. Workplaces employing healthcare workers may implement policies with respect to proof of COVID-19 immunization. It is recommended to check with the employer for additional policies and/or requirements.

## Resources to help health practitioners with conversations about COVID-19 vaccine

Websites:

[19 to Zero](#)

[COVID-19: How vaccines are developed](#). Government of Canada.

[Vaccine development and approval in Canada](#). Government of Canada.

[Immunize Canada](#)  
[Canvas](#)

Social media:

<http://linkedin.com/company/19tozero>

<https://twitter.com/19toZero>

<https://www.facebook.com/19tozero>

<https://www.instagram.com/covidisabear/>

@covidvaccinefacts (Instagram)