

# COVID-19 vaccines - mRNA

## What are COVID-19 vaccines?

COVID-19 vaccines protect against the SARS-CoV-2 virus (also known as COVID-19). The virus causes an infection in the lungs and airways and is a type of respiratory illness. In some cases, the infection can cause problems with other organs or other parts of the body. Go to [ahs.ca/covid](https://ahs.ca/covid) to learn more about COVID-19.

The following COVID-19 vaccines are approved for use in Canada:

- **mRNA vaccines:** Pfizer-BioNTech (Comirnaty) and Moderna (SpikeVax)
- **viral vector-based vaccines:** AstraZeneca (Vaxzevria)/COVISHIELD and Janssen (Johnson & Johnson)
- **protein-based vaccine:** Novavax (Nuvaxovid)
- **plant-based vaccine:** Medicago (Covifenz)

The Pfizer-BioNTech, Moderna, Janssen, and Novavax vaccines are available in Alberta. For information about the protein-based and viral vector-based vaccines, read the vaccine information sheets on [ImmunizeAlberta.ca](https://immunizealberta.ca).

## Who should get an mRNA COVID-19 vaccine?

Everyone is at risk of COVID-19. You should get an mRNA COVID-19 vaccine if you are age 6 months or older. COVID-19 vaccines are free.

## Do I need a vaccine if I have already had COVID-19?

If you have already had COVID-19, it is not yet known how long your protection will last or how much protection you will have against variants. It is important to get a COVID-19 vaccine even if you have already had the virus.

The vaccine may give you better protection if you wait a while after having COVID-19 and then get a vaccine. How long to wait depends on your health history and whether or not you have already had doses of COVID-19 vaccine.

If you have had COVID-19 infection in the past, check with your healthcare provider about when to get a COVID-19 vaccine.

## What if my child is getting a COVID-19 vaccine?

Consent for a COVID-19 vaccine for children under age 18 years is provided by a parent or guardian. If a parent or guardian cannot be at the appointment, they can give consent in writing using the consent form at [ahs.ca/VaccineUnder18](https://ahs.ca/VaccineUnder18). In some cases, children under age 18 years may be able to give their own consent.

## How well do COVID-19 vaccines work?

How well the vaccines work against COVID-19 is different for each variant. COVID-19 vaccines are the best way to lower your risk of getting COVID-19 or getting very sick from it.

The mRNA vaccines give the best protection. The protein-based vaccine gives more protection than the viral vector-based vaccines. However, all the vaccines work very well to lower your risk of getting seriously ill and needing to be in the hospital.

## How many doses of mRNA COVID-19 vaccine do I need?

### Primary series

You need at least 2 doses of an mRNA COVID-19 vaccine. These doses are called your primary series.

For some people, 2 doses may not give enough protection. You may need a third dose to complete your primary series if you have a health problem that weakens your immune system. For example:

- You have had or will have an organ or stem cell transplant.
- You have kidney disease and need dialysis.
- You have acquired immunodeficiency syndrome (AIDS).
- You take certain medicines that weaken your immune system.

Studies have shown that a third dose may provide better protection to adults with a weak immune system. In babies and children with a weak immune system, a third dose may also provide better protection, but research is still happening to learn more.

### Booster doses

If you are age 5 years or older, you can get a first booster dose 5 months after your primary series. A booster dose will give you more protection, especially if you have a health problem that puts you at higher risk for getting very sick.

You should get your first booster dose if you are age 18 years or older.

You should also get your first booster dose if you are age 12 to 17 years and you:

- have certain health conditions (such as you have diabetes, you have a weak immune system, or you have heart, lung, spleen, or liver problems)
- are pregnant
- have a lot of extra weight
- are Indigenous
- live in a group setting such as a group home or long-term care centre

If you are age 18 years or older, you can get a second booster dose 5 months after your first booster dose. This will provide better and longer protection. A second booster dose is strongly recommended for the following people as they are at high risk of serious disease:

- people age 50 years or older
- people who live in a seniors living facility

Go to [alberta.ca/covid19-vaccine](https://alberta.ca/covid19-vaccine) to book an appointment for your booster dose.

## Doses for travel

If you are travelling outside of Canada, you may be able to get additional doses. This is only if your destination requires you to have a certain COVID-19 vaccine series or a dose within a certain time.

## Can I get an mRNA COVID-19 vaccine if I am pregnant or breastfeeding?

Yes, you can get an mRNA COVID-19 vaccine if you are pregnant or breastfeeding. Research shows that mRNA vaccines are the safest type of COVID-19 vaccines to get during pregnancy.

When you are pregnant, you have a higher risk of getting very sick from COVID-19. Getting a COVID-19 vaccine lowers your risk of getting seriously ill from the virus.

If you are pregnant or breastfeeding and have questions about getting a COVID-19 vaccine, talk to your healthcare provider.

## Where can I get a COVID-19 vaccine?

Go to [ahs.ca/covidvaccine](https://ahs.ca/covidvaccine) to find out where and when you can get a COVID-19 vaccine.

## Are there side effects from mRNA COVID-19 vaccines?

There can be side effects from mRNA COVID-19 vaccines, but they tend to be mild and go away in a few days. Side effects may include:

- redness, swelling, or feeling sore where you had the needle
- feeling tired or have a headache
- a fever or chills
- body aches or sore joints
- feeling sick to your stomach (nausea), vomiting (throwing up), or loose stool (diarrhea)
- swollen lymph nodes
- swelling or feeling sore in your armpit or groin
- a reduced sense of touch or a feeling of numbness
- feeling dizzy
- a rash or hives

Children age 5 years and younger may also get upset easily or cry, have an earache, or may not want to eat.

Current information shows that there is similar risk of side effects after each dose of an mRNA COVID-19 vaccine. Research continues to find out more about the risk of side effects after additional doses.

It is important to stay at the clinic for 15 minutes after your vaccine. Some people may have a rare but serious allergic reaction called anaphylaxis. If anaphylaxis happens, you will get medicine to treat the symptoms.

It is rare to have a serious side effect. Call Health Link at 811 to report any serious or unusual side effects.

## What rare events have been reported after getting an mRNA COVID-19 vaccine?

There have been very rare reports of myocarditis (inflammation of the heart muscle) and pericarditis (inflammation of the lining around the heart) within 7 days of getting either the Pfizer-BioNTech or the Moderna vaccine. Most reported cases were mild and got better with treatment.

The inflammation can cause shortness of breath, chest pain or pressure, or a very fast or abnormal heart rate. Get medical help **right away** if you have any of these symptoms.

Information about those age 12 years and older who got an mRNA vaccine shows that these rare events were reported more commonly:

- after the second dose
- in those age 12 to 29 years
- in males
- in those who got Moderna vaccine

The Pfizer-BioNTech vaccine has a lower risk of myocarditis and pericarditis than the Moderna vaccine, especially for those age 12 to 29 years getting their primary series.

Research has shown that children age 5 to 11 years may also have a lower risk of these events after their primary series with Pfizer-BioNTech vaccine than people age 12 to 29 years.

In clinical trials with Moderna vaccine, there were no reports of myocarditis or pericarditis in children age 6 months to 5 years.

Research is still happening to learn more about the risk of these events after a third dose or a booster dose and the risks in babies and children.

It is not known if having a history of myocarditis or pericarditis puts you at higher risk of having these rare events after a COVID-19 vaccine. Talk to your doctor before you get a dose of COVID-19 vaccine if:

- You had myocarditis or pericarditis within 6 weeks of getting a COVID-19 vaccine.
- You have a history of myocarditis or pericarditis and you have questions about getting a COVID-19 vaccine.

Research is happening to learn more about the risks of these rare events. Your risk of getting seriously ill from COVID-19 is much higher than your risk of having a rare event after these vaccines.

Go to [COVID-19 vaccine – Frequently Asked Questions on ahs.ca/topics/Page17389.aspx](https://www.ahs.ca/topics/Page17389.aspx) for more information.

### How can I manage side effects?

- To help with soreness and swelling, put a cool, wet cloth over the area where you had the needle.
- There is medicine to help with a fever or pain. Check with your doctor or pharmacist if you are not sure what medicine or dose to take. Follow the directions on the package.
- Children under the age of 18 years should **not** take aspirin (unless your doctor has told you to take it) because it can cause serious health problems if taken within 6 weeks of a vaccine.
- Some people with health problems, such as a weak immune system, must call their doctor if they get a fever. If you have been told to do this, call your doctor even if you think the fever is from the vaccine.

### What vaccine will I get for my primary series?

You can get the following vaccines for your primary series, depending on your age group:

- Age 6 months to 4 years: You can get the Moderna vaccine.
- Age 5 to 17 years: You can get either the Pfizer-BioNTech or Moderna mRNA vaccine.
- Age 18 years and older: You can get either the Pfizer-BioNTech or Moderna mRNA vaccine. If you cannot get or do not want an mRNA vaccine, you can get the protein-based or a viral vector-based vaccine.

If you are age 5 to 29 years, it is recommended to get the Pfizer-BioNTech vaccine. This vaccine has shown to have a lower risk of myocarditis and pericarditis in people age 12 to 29 years and may have a lower risk for children age 5 to 11 years.

Usually you get the same vaccine for all your doses. If your first-dose vaccine is not available or you cannot have it, you can get a different COVID-19 vaccine for your next dose. Whichever vaccine you get to complete your primary series protects you against COVID-19. Talk to your healthcare provider about which vaccine is best for you. Go to [ahs.ca/seconddose](https://www.ahs.ca/seconddose) for more information.

### What vaccine will I get for my booster or additional dose?

You will get an mRNA vaccine for any booster or additional doses.

- The Pfizer-BioNTech vaccine is licensed for first booster doses for people age 5 to 11 years and age 16 years or older who completed their primary series at least 6 months ago.
- The Moderna vaccine is licensed for first booster doses for people age 18 years or older who completed their primary series at least 6 months ago.

If you are age 5 to 11 years, you will get the Pfizer-BioNTech vaccine for your booster dose.

If you are age 12 to 29 years, it is recommended to get the Pfizer-BioNTech vaccine for your booster dose.

There is more to learn about the risk of myocarditis and pericarditis after getting a booster dose. But with the primary series, we have seen that the Pfizer-BioNTech vaccine has a lower risk of these rare events in those age 12 to 29 years.

If you cannot get or do not want an mRNA vaccine, you can get the protein-based vaccine if you are age 18 years or older.

The vaccine is not licensed for more than 2 doses in all cases. But vaccine experts support this in certain situations. This is called “off-label use.”

Getting more than 2 doses of a COVID-19 vaccine is off-label use if:

- You are age 6 months to 4 years or age 12 to 15 years.
- You get a third dose sooner than 6 months after your second dose.
- You get a fourth or fifth dose.
- You get the protein-based vaccine as a third dose, booster dose, or additional dose.

If you get a Moderna vaccine for your first booster dose and you are age 65 years or older, have a weak immune system, or live in a seniors living facility, you will get a higher dose of vaccine. This is also considered off-label use but is supported by vaccine experts.

Talk to your healthcare provider about which vaccine you can get and when to have your doses.

### What vaccine is recommended for people with a weak immune system?

Research has shown mRNA vaccines provide the best protection for people with a weak immune system. For some people with a weak immune system, the Moderna vaccine may provide better protection than the Pfizer-BioNTech vaccine. Talk to your healthcare provider about which vaccine is best for you.

### What if I had or am getting another type of vaccine?

#### Age 6 months to 5 years

Children age 6 months to 5 years who got the Moderna vaccine should wait 14 days before getting another vaccine. If they got another vaccine first, they should wait 14 days before getting the Moderna vaccine. Waiting helps to watch for any side effects from the Moderna vaccine.

If your child needs another vaccine on the same day or in the 14 days before or after the Moderna vaccine (for example, your child is due for routine childhood vaccines), there are no safety concerns. Both vaccines will still work to protect your child. Some vaccines have a longer waiting period. If your child had another vaccine in the last 4 weeks, check with your healthcare provider about when they can get the Moderna vaccine.

#### Age 5 years and older

Children age 5 years who got the Pfizer-BioNTech vaccine and anyone age 6 years or older can get most vaccines at the same time as, any time before, or any time after an mRNA COVID-19 vaccine. However, certain vaccines have a waiting period. If you had another vaccine in the last 4 weeks, check with your healthcare provider about when you can get the mRNA COVID-19 vaccine.

### Who should not get an mRNA COVID-19 vaccine?

You may not be able to get an mRNA COVID-19 vaccine if you:

- have an allergy to any part of the vaccine
- had a severe (serious) or unusual side effect after this vaccine or one like it
- are under age 6 months

Always tell your healthcare provider if you have allergies or if you have had a side effect from a vaccine in the past.

Check with your healthcare provider about when you can get an mRNA COVID-19 vaccine if you:

- had COVID-19 in the past
- are under age 18 years and have a history of multisystem inflammatory syndrome (MIS-C)

Be sure to talk to your doctor **before** you get an mRNA COVID-19 vaccine if you:

- have a weak immune system (because of a medicine you take or a health problem)
- have an autoimmune disorder (like rheumatoid arthritis or lupus)
- have had a stem cell or organ transplant
- have a history of myocarditis or pericarditis within 6 weeks of getting a dose of COVID-19 vaccine