COVID-19 Vaccine Fact Sheet

How do the vaccines work?

Both the Pfizer-BioNTech and the Moderna vaccines tell your body to make a harmless protein found in the virus and start building antibodies that can fight the real virus if you come in contact with it. The vaccines are given using a needle that goes into the muscle in your upper arm and the same vaccine is used for your first and second dose. The vaccines are expected to be 94-95% effective after two doses.

Can I get a vaccine?

You can get the Pfizer-BioNTech if you are **16 years of age and older** and the Moderna vaccine if you are **18 years of age and older.**

You **should not** get the COVID-19 vaccine if:

- You have ever had a severe allergic reaction (e.g. anaphylaxis) to a previous dose of this type of vaccine. You can review the list of ingredients here: **Pfizer-BioNTech vaccine monograph/Moderna COVID-19 vaccine monograph**

You **should defer** getting the COVID-19 vaccine if:

- You have received another vaccine (not a COVID-19 vaccine) in the past 14 days.
- You have acute symptoms of a COVID-19 like illness; you should wait until your symptoms are resolving and have no fever for at least 24 hours.
    - If you live in a long-term care home and are in isolation with a positive diagnosis and your symptoms are resolving, you **can be** vaccinated.
    - If you live in a long-term care home and are positive for the virus and asymptomatic, you **can be** vaccinated if at least 72 hours have passed since your positive test.

You may be able to receive the COVID-19 vaccine but should take precautions, such as 30 minutes of observation following the vaccine, if:

- You have a bleeding problem, bruise easily or use a blood-thinning medicine.
- You have a history of severe allergic reactions (e.g. anaphylaxis) to certain foods, pets, or latex.

Refer to the guidance document for special populations: **Vaccination Recommendations for Special Populations.**

COVID-19 Vaccine Fact Sheet

What do I do after I get a COVID-19 vaccine?

Wait at least 15 minutes before leaving your appointment and inform a healthcare provider right away if you feel unwell.

You might feel some side effects such as:

- Pain at injection site, redness, swelling
- Fatigue
- Headache
- Muscle pain or joint pain
- Fever, chills
- Swollen glands
- Diarrhea
- Nausea/vomiting

Serious side effects after receiving the vaccine are rare. However, should you develop any of the following adverse reactions within three days of receiving the vaccine, seek medical attention right away or call 911 if you are severely unwell:

- Hives
- Swelling of the face or mouth
- Trouble breathing
- High fever (over 40˚C)
- Convulsions or seizures
- Very pale colour and serious drowsiness
- Other serious symptoms (e.g. “pins and needles” or numbness)

COVID-19 Vaccine Fact Sheet

The COVID-19 vaccine: five things you need to know

Ontario's vaccination rollout is well underway. You can protect yourself, your loved ones, and your community by getting vaccinated. Here's more information about the COVID-19 vaccines.

1 **No steps were skipped in developing these vaccines.** While the COVID-19 vaccines were made available quickly, they were developed using mRNA research and technology used by scientists since the early 1990s. This research is well developed and the technology has been used effectively and is proven safe and reliable.

2 **COVID-19 vaccines will not give you COVID-19.** Unlike other vaccines, COVID-19 vaccines don't contain the virus itself. Instead, these types of vaccines teach our cells how to make a protein that will trigger an immune response and create antibodies.

3 **The vaccines have been reviewed and approved by Health Canada.** In order to be used in Canada, all drugs, including vaccines, must meet the regulatory requirements for safety, efficacy and quality. Usually this review process can take a long time because new drugs and vaccines get added to the bottom of the list, and must wait their turn for review. However, these vaccines are so important they went right to the front of the line, allowing the process to be much quicker than usual.

4 **Two doses deliver stronger immunity.** It is important to receive both doses of the vaccine to complete the vaccine series. Protection offered by the first dose helps your body build immunity and the second dose boosts your immunity. For example, the Pfizer-BioNTech and Moderna vaccines are 94-95% effective after two doses.

5 **When a large percentage of the population becomes immune to COVID-19, the spread of the virus will slow down or stop.** You can protect yourself, your loved ones and your community by getting the COVID-19 vaccine.

Check **ontario.ca/covidvaccine** regularly for up-to-date information on the vaccine and Ontario's distribution plan.

Ontario

COVID-19 Vaccine Fact Sheet

How do the vaccines work?

With Health Canada approval of some COVID-19 vaccines, we know that many people have questions about the vaccines and what this means for them. Here are answers to some of the commonly asked questions to help you make an informed decision about getting the COVID-19 vaccine.

About COVID-19 vaccines

How do the COVID-19 vaccines work?

Vaccines tell your body how to make a harmless protein found in the virus and start building antibodies that know how to fight the real virus if you come in contact with it.

How well does the vaccine work, can I still get COVID-19?

The Pfizer-BioNTech and Moderna vaccines are given in two doses using a needle in your upper arm. The same vaccine is used for your first and second dose. The Pfizer-BioNTech and Moderna vaccines are expected to be 94-95% effective after two doses.

Do I still need to wear a mask after I've been vaccinated?

Yes. Studies are still underway to determine the effectiveness of the vaccine in preventing asymptomatic infection and reducing the transmission of COVID-19. For now, and until scientific experts say it's safe to stop, it is important to continue to follow the advice of public health officials including maintaining a physical distance of two metres from people outside of your household, wearing a mask, practicing proper hand hygiene and limiting non-essential travel. These measures will help keep you, your loved ones and your community safe.

How long will the vaccine last? Do I need to get it each year?

Studies are still underway to determine how long the vaccine will provide immunity. The government will keep the public informed as new data becomes available.

Is there a microchip in the vaccine?

No.

How is the COVID-19 vaccine different from the flu vaccine?

The COVID-19 vaccine and the flu vaccine are very different and cannot be directly compared. They target different viruses: the flu vaccine has to combat several influenza viruses which mutate, while the COVID-19 vaccine targets just one virus, SARS-CoV-2.

What if I don't take the second dose of the Pfizer or Moderna vaccines?

It is important to receive both doses. Protection offered by the first dose is lower than what is achieved after the second dose. The vaccines are 94-95% effective after two doses.

What ingredients are in the Pfizer-BioNTech vaccine?

Non-medical ingredients in the vaccine include:

- ALC-0315 = (4-hydroxybutyl)azanediyl) bis(hexane-6,1-diyl)bis(2-hexyldecanoate)
- ALC-0159 = 2-[(polyethylene glycol)-2000]-N, N-ditetradecylacetamide
- 1,2-distearoyl-sn-glycero-3-phosphocholine
- Cholesterol
- dibasic sodium phosphate dihydrate
- monobasic potassium phosphate
- potassium chloride
- sodium chloride
- sucrose
- water for injection

See the Ontario Ministry of Health's Information Sheet on Pfizer-BioNTech and Moderna COVID-19 Vaccines for further information.

What ingredients are in the Moderna vaccine?

Non-medical ingredients in the Moderna COVID-19 vaccine include:

- 1, 2-distearoyl-sn-glycero-3-phosphocholine (DSPC)
- acetic acid
- cholesterol
- lipid SM-102
- PEG2000 DMG 1,2-dimyristoyl-rac-glycerol, methoxy-polyethyleneglycol
- sodium acetate
- sucrose
- tromethamine
- tromethamine hydrochloride
- water for injection

See the Ontario Ministry of Health's Information Sheet on Pfizer-BioNTech and Moderna COVID-19 Vaccines for further information.

COVID-19 vaccine safety

Are COVID-19 vaccines safe?

Yes. Only vaccines that Health Canada has approved and determined are safe and effective will be administered in Ontario.

Health Canada has one of the most rigorous scientific review systems in the world. Health Canada only approves a vaccine if it is safe, it works, it meets manufacturing standards, and the benefits of being vaccinated outweigh the risks.

What was the approval process for the vaccine?

Canada's best independent scientists thoroughly reviewed all the data before approving the vaccines as safe and effective for Canadians. All safety steps were followed in approving these vaccines. The development of the COVID-19 vaccines progressed quickly for several reasons including: reduced time delays in the vaccine approval process, quick adaptation of existing research programs, international collaboration among scientists and governments, increased dedicated funding and quick recruitment of clinical trial participants.

View the Ministry of Health's summary of the COVID-19 Vaccine Approval Process and Safety for further information.

Should I be worried about a vaccine that was developed so quickly?

No. Only vaccines that Health Canada has approved and determined are safe and effective will be administered in Ontario.

These vaccines were developed faster than before because of the never-before-seen levels of collaboration and funding invested in this effort around the world.

The technology behind the vaccines has been around for more than 10 years and have already been used in animal models for influenza, zika virus, rabies virus, cytomegalovirus (CMV) and others. Because this advanced technology already existed, scientists were able to work quickly.

Can the vaccine give me COVID-19?

No, the COVID-19 vaccine cannot give you COVID-19 or any other infectious disease. None of the Health Canada approved vaccines so far are live vaccines, meaning that they do not contain the virus that causes COVID-19.

It is important to remember that it typically takes a few weeks for the human body to build immunity after vaccination. That means it is possible for a person to become infected with the virus that causes COVID-19 just before or just after vaccination. This is because the vaccine has not had enough time to provide protection. Even if you receive the vaccine, please continue to follow the public health measures to keep you, your loved ones and your community safe.

Will I experience side effects?

Similar to medications and other vaccines, the COVID-19 vaccines can cause side effects. The most common side effects include soreness at the injection site on your arm, a bit of tiredness, chills and/or a mild headache as the vaccine starts to work. During the clinical trials, the most frequent side effects were mild and resolved within a few days after vaccination.

These types of side effects are expected and simply indicate the vaccine is working to produce protection.

As with any medicines and vaccines, allergic reactions are rare but can occur after receiving a vaccine. Symptoms of an allergic reaction include hives (bumps on the skin that are often very itchy), swelling of your face, tongue or throat, or difficulty breathing. Most serious reactions will occur shortly after injection, and clinic staff are prepared to manage an allergic reaction should it occur. If you are concerned about any reactions you experience after receiving the vaccine, contact your health care provider. You can also contact your local public health unit to ask questions or to report an adverse reaction.

Serious side effects after receiving the vaccine are rare. However, should you develop any of the following reactions within three days of receiving the vaccine, seek medical attention right away or call 911:

- hives
- swelling of the face or mouth
- trouble breathing
- very pale colour and serious drowsiness
- high fever (over 40˚C)
- convulsions or seizures
- other serious symptoms (e.g., "pins and needles" or numbness)

What are the longer-term side effects of this vaccine?

Ongoing studies on the Pfizer-BioNTech and Moderna vaccines indicate no serious side effects found to date. People who have received the vaccine in studies continue to be monitored for any longer-term side effects.

For more information on adverse events following immunization (AEFIs) or to report an AEFI visit Public Heath Ontario's vaccine safety web page.

Are side effects from the second dose worse than the first dose?

Side effects are more likely to occur after your second dose of the vaccine. Since side effects are the result of your immune system building protection, once your immune system has been

primed with the first dose then there is a much stronger immune response to the second dose (this is a good thing!).

Has anyone died from taking a COVID-19 vaccine?

No one is known to have died as a direct result of the COVID-19 vaccine. Nearly two million people have died globally from COVID-19.

Should I get a COVID-19 vaccine?

Why should I get a COVID-19 vaccine?

A vaccine is the only foreseeable way to end the COVID-19 pandemic. The pandemic will not end until the majority of Canadians are vaccinated. You can protect yourself, your loved ones, and your community by getting vaccinated.

While the vaccine will protect each of us individually, the primary goal of a vaccine program is to immunize the majority of the population so that COVID-19 can no longer spread.

The percentage of people that need to be vaccinated depends on how infectious the disease is and how effective the vaccine is at preventing spread of the disease.

The sooner a majority of Ontarians are vaccinated, the sooner our lives can return to normal.

I'm not high risk. COVID-19 isn't that bad. I don't need a vaccine.

Globally, nearly two million people have died of COVID-19 in less than a year. COVID-19 does not discriminate, and anyone can become sick from the virus.

Even if a healthy person does not die of COVID-19 infection, they may have long-term complications that impact their ability to experience normal life, such as shortness of breath, fatigue, headaches, muscle/joint pain, cognitive impairment, cough and loss of taste and/or smell.

Even if you are not high-risk, there are other individuals in your community who may be high-risk and immunocompromised, which means their immune systems are not strong enough to receive a vaccine. When a majority of the community is vaccinated, this protects individuals who are immunocompromised because it reduces the chances that a virus can spread throughout the community and infect that immunocompromised individual who could not receive the vaccine.

I think I should wait and see what happens to others

The sooner a majority of Ontarians are vaccinated, the sooner our lives can return to normal. We need a majority of Ontarians to be vaccinated to end the pandemic.

We are working to distribute the vaccine to every corner of the province as soon as we receive sufficient supply. To ensure that everyone who wants to be vaccinated can be vaccinated safely and quickly, it is important that people who have access the vaccine are vaccinated the first time it is offered to them.

What if I'm pregnant or trying to get pregnant?

People who are pregnant may be able to get the COVID-19 vaccine.

People who were pregnant were excluded from the Phase III trials for the Pfizer BioNTech and Moderna COVID-19 vaccines. Therefore, there is limited data on the safety of the vaccines during pregnancy.

Pregnant individuals in the authorized age group may choose to receive the vaccine after counselling and informed consent that includes:

- a review of the risks and benefits of the vaccine
- a review of the potential risks/ consequences of a COVID-19 infection in pregnancy
- a review of the risk of acquiring a COVID-19 infection in pregnancy
- an acknowledgment of the insufficiency of evidence for the use of current COVID-19 vaccines in the pregnant population

If after this counselling by their treating provider the pregnant individual feels the potential benefits of vaccination outweigh the potential harms, they should be able to access the vaccine.

Individuals planning on becoming pregnant should speak with their primary care provider. For additional information, consult the Society of Obstetricians and Gynaecologists of Canada Statement on COVID-19 Vaccination in Pregnancy.

What if I'm breastfeeding?

Breastfeeding individuals may be able to get the COVID-19 vaccine.

Breastfeeding individuals were excluded from the Phase III trials for the Pfizer BioNTech and Moderna COVID-19 vaccines. Therefore, there is no data on the safety of the vaccines in lactating individuals or the effects of mRNA vaccines on the breastfed infant or on milk production.

For any individuals who are breastfeeding, the COVID-19 vaccine should be offered after counselling and informed consent that includes recognizing the insufficiency of evidence for the use of COVID-19 vaccine in the breastfeeding population.

For additional information, consult the Society of Obstetricians and Gynaecologists of Canada Statement on COVID-19 Vaccination in Pregnancy.

When can my kids get the vaccine?

So far, a vaccine has not been approved for children. Research is underway to determine when those under the authorized ages can receive the vaccine.

If I don't take it now, will I get a chance later? Or will I be placed at the end of the line?

Our goal is to ensure that everybody across Ontario who is eligible and who wants the vaccine can get it. The sooner the majority of Ontarians are vaccinated, the sooner our lives can return to normal. The pandemic will not be under control until the majority of Canadians are vaccinated. To ensure we can vaccinate everyone who wants to be vaccinated as safely and as quickly as possible, it is important that people who have access to the vaccine are vaccinated the first time it is offered to them.

What if I'm behind on my regular immunization schedule? Can I still get it?

Yes. We also encourage those who are behind on their immunizations to contact their health care provider to get up to date.

Why am I not in a priority group?

As recommended by the COVID-19 Vaccine Distribution Task Force and aligned with the National Advisory Committee on Immunization, the province has adopted an approach for identifying the next groups to receive the vaccination as early as March 2021. As part of phase one, we are vaccinating the most vulnerable populations first, who have higher risk outcomes from contracting the virus and are at a higher risk of being exposed to and spreading the virus.

As Ontario gets more vaccine supply, the program will further expand to include additional groups. You can find more details about Ontario's COVID-19 vaccination program, including the various phases of the program at Ontario's COVID-19 vaccine web page.