

Ministry of Health

COVID-19 About Vaccines

Version 2.0 - December 30, 2020 (amended January 6, 2021)

Highlights of changes

- Updated to include Moderna vaccine (throughout)
- Removal of clinical trial details chart
- Question added to FAQs around interchangeability of COVID-19 vaccines

This guidance provides basic information only. It is not intended to take the place of medical advice, diagnosis or treatment, legal advice or legal requirements.

- Please check the Ministry of Health (MOH) [COVID-19 website](#) regularly for updates to this document, list of symptoms, other guidance documents, Directives and other information.

COVID-19 Vaccines: Overview

Representing a turning point in our fight against COVID-19, Health Canada has authorized the Pfizer-BioNTech and Moderna COVID-19 mRNA vaccines. More vaccines will likely be authorized in the near future.

What you should know:

- Health Canada only approves a vaccine if it is supported by very robust scientific data and evidence.
- After approval, Health Canada and the Public Health Agency of Canada continue to monitor the ongoing safety and effectiveness of all approved vaccines in Canada.

- Canadians will have easy access to detailed information on the vaccine and the evidence behind the vaccine approval process through the [Government of Canada's website](#).
- The benefits of vaccination greatly outweigh the risks, and many more illnesses and deaths would occur without vaccines. Vaccines prevent illness and disease, and save lives and livelihoods. Mass vaccination will protect people's lives and help Canada recover from the COVID-19 pandemic.

After more than a decade of research and development on mRNA vaccines, these vaccines are the first mRNA vaccines approved for use in humans. To date, mRNA has been successfully used in cancer treatments, and research into its value for vaccinations has been ongoing for over ten years.

How does vaccination work?

mRNA vaccines	Use genetic instructions in molecules called mRNA to generate a coronavirus protein that initiates the body's natural production of antibodies and cellular immune response. mRNA vaccines are not live vaccines and cannot cause infection in the host. mRNA vaccines also cannot alter a person's DNA.
Viral vector vaccines	Use a genetically engineered virus that cannot cause disease but can produce coronavirus proteins to generate an immune response in the body.
Protein-based vaccines	Use harmless fragments of proteins or protein shells that mimic coronavirus to generate an immune response in the body.
Inactivated or weakened virus vaccines	Use an inactivated or weakened form of the virus that does not cause disease but still generates an immune response in the body.

The Pfizer-BioNTech and Moderna mRNA COVID-19 vaccines

The Pfizer-BioNTech and Moderna mRNA COVID-19 vaccines are highly efficacious in the short-term against laboratory-confirmed symptomatic COVID-19 disease; medium and long-term trials are ongoing. The Pfizer-BioNTech and Moderna mRNA vaccines are indicated for active immunization to prevent COVID-19 caused by SARS-CoV-2. Clinical trial details are available in the [Pfizer-BioNTech monograph](#) and the [Moderna monograph](#). Additional information on the use of COVID-19 vaccines is available in [statements and publications by the National Advisory Committee on Immunization \(NACI\)](#).

Side effects

Similar to medications and other vaccines, the Pfizer-BioNTech and Moderna COVID-19 vaccines can cause side effects. During the clinical trials, common side effects similar to other vaccines were reported (e.g., redness and pain at the injection site). These side effects do not pose a health risk.

- The most frequent adverse reactions were mild or moderate and resolved within a few days after vaccination.
- No major safety concerns were reported in the data submitted to Health Canada.

Vaccine	Very common side effects (may affect more than 1 in 10 people)	Uncommon side effects (may affect up to 1 in 100 people)
Pfizer-BioNTech	<ul style="list-style-type: none"> • Pain at injection site • Fatigue • Headache • Muscle pain • Chills • Joint pain • Fever • Diarrhea 	<ul style="list-style-type: none"> • Axillary swelling and tenderness (enlarged lymph nodes)

Vaccine	Very common side effects (may affect more than 1 in 10 people)	Uncommon side effects (may affect up to 1 in 100 people)
Moderna	<ul style="list-style-type: none"> ● Pain at injection site ● Fatigue ● Headache ● Myalgia ● Chills ● Nausea/Vomiting ● Axillary swelling and tenderness (enlarged lymph nodes) 	<ul style="list-style-type: none"> ● Fever

Note: Additional details on side effects are available in the Pfizer-BioNTech monograph and the Moderna monograph.

FAQ's

- **Can recipients contract the coronavirus from this vaccine?**

No. This is not a live vaccine and does not contain the virus; therefore, the vaccine cannot give recipients infection or disease (COVID-19).

- **Will this vaccine alter the recipient's DNA?**

No. This vaccine does not affect, interact or alter DNA in any way. Our DNA resides in the nucleus of our cells and the mRNA does not travel into the nucleus. Therefore, there is no risk of altering DNA. It uses the body's natural defense response which breaks down and gets rid of the mRNA after it is finished using the harmless genetic instructions.

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- **Do recipients of the vaccine still need to follow public health guidance (masking and distancing) after receiving the vaccine?**

Yes. There is insufficient evidence at this time on the effectiveness of COVID-19 vaccines in preventing asymptomatic infection and reducing transmission of SARS-CoV-2.

- **If the patient gets mild side effects, should they receive the second shot?**

Yes. Mild side effects are common for all vaccines and typically resolve in a few days. It is important to receive both doses. Protection offered by the first dose is lower than the efficacy achieved after the second dose.

- **If the recipient received the Pfizer vaccine for their first dose, can they receive the Moderna vaccine for their second dose?**

No. Currently, no data exist on the interchangeability of COVID-19 vaccines. Both doses should be given with the same vaccine (i.e., dose #1 Pfizer, dose #2 Pfizer or dose #1 Moderna, dose #2 Moderna).