

# Answering questions about **COVID-19 vaccines:** a guide for healthcare providers



As a healthcare provider, you are the key to a successful COVID-19 vaccination campaign. These evidence-based responses to common questions will help you in your role as a community ambassador to promote widespread vaccination.

**In all patient encounters, communicate that you have already gotten or are planning to get vaccinated.**

## **I don't need a vaccine.**

### **I am not at risk/COVID-19 isn't that bad.**

- COVID-19 is much more serious than the flu. In Canada, the flu kills roughly 3,500 patients per year. In less than a year, COVID-19 has killed 4 times that many.
- Even if a young and healthy person does not die of COVID-19 infection, they may have long term complications from COVID-19, affecting multiple organ systems. Long-term effects include memory loss, fatigue, body aches, unexplained breathing difficulties, and damage to the lungs and heart. Clinics have already been set up to support the many COVID-19 patients who, although they are no longer infected, cannot go back to work or live a normal life.
- Even if you do not develop severe COVID-19 infection, you may still pass on the virus to someone who will. If you are vaccinated, you're helping protect the people around you.

#### *References:*

- [Flu facts. \(Gov of Ontario, 2020\)](#)
- [Long-Term Sequelae and COVID-19 – What We Know So Far \(PHO, July 10, 2020\)](#)
- [Emerging evidence: Prolonged symptoms of COVID-19 \(CEP, 2020\)](#)

## **I will wait to get the vaccine.**

### **There are not enough vaccines to go around/I want to see what happens to others who have received it.**

- The pandemic – and the lockdowns and public health measures – will not end until the majority of Canadians are vaccinated. To ensure we can vaccinate everyone as quickly as possible, it is important that people access the vaccine the first time it is offered to them.
- Canada has ordered more than enough vaccines - we have purchased more shots per person than any other country in the world! We will be getting those vaccines delivered over time. The implementation plan of those vaccines is designed to most efficiently end this pandemic. You can feel confident that when you are offered one, it is because it is the right time for you to get it. This is your chance to do your part to end the pandemic and get back to normalcy quickly.
- If you wait to get vaccinated and get infected in the meantime, you may end up in hospital – which would put more strain on the system than getting the vaccine.

- If Canadians wait to get the vaccine, more people will die.

#### *References:*

- [Vaccine Availability and Rollout \(MOH, December 12, 2020\)](#)

## **Did scientists and the government skip steps to rush vaccine production and approval?**

- No steps were skipped in the process of developing, testing, approving, and producing the vaccine.
- Canada's best independent scientists have thoroughly reviewed all the data before approving the vaccine as safe and effective for Canadians.
- The vaccines were produced faster than before not because of skipped steps but because of never-before-seen levels of collaboration and funding around the world invested in this effort. Normally, vaccine clinical trials need 6000-8000 people for the approval process. The Pfizer-BioNTech trial had over 45,000 people and the Moderna trial over 30,000.
- Unlike with other vaccines that go one step at a time and then plan the next step, for the COVID-19 vaccines, governments invested in having companies plan all the steps at the beginning and build up their manufacturing capacity right away.
- I have reviewed the steps taken and have full faith in it. Myself, my colleagues, and my family will be taking or have taken the vaccine. Health Canada is known to have a rigorous and thorough approval process to ensure the safety of all Canadians.

#### *References:*

- [COVID-19 vaccine approval process and safety \(MOH, Dec 12, 2020\)](#)
- [Pfizer-BioNTech COVID-19 vaccine: Authorization information \(Health Canada, Dec 11, 2020\)](#)

## **How can the vaccine have been developed so quickly?**

- The use of mRNA for vaccines and treatment of disease has been around for a while – that's one of the reasons why these vaccines could be developed so quickly. mRNA vaccines have been used in animal models for influenza, Zika, Rabies, CMV and others, and in humans for cancer treatment and cancer vaccine clinical trials.
- mRNA vaccines are like CD players that can play any kind of CD - classical music, rap or pop. The scientists had the CD player before COVID-19 hit. Once they figured out the Coronavirus CD, they could place it into the player and make the vaccine a lot faster than before, since they used what was known and built on it.
- Over 70,000 doses have been tested in the mRNA phase 3 trials so far, without any safety concerns.

#### *References:*

- [mRNA vaccines — a new era in vaccinology \(Nat Rev Drug Discov, 2018\)](#)
- [Safety and Efficacy of the BNT162b2 mRNA COVID-19 vaccine \(NEJM, Dec 10, 2020\)](#)
- [Promising Interim Results from Clinical Trial of NIH-Moderna COVID-19 vaccine \(NIH, Nov 16, 2020\)](#)

## How do mRNA vaccines work?

- The purpose of any vaccine is to mimic the infection, get the body to build immunity to the virus but not cause the illness. The vaccine will train the immune system to recognize COVID-19 and respond quickly if you are ever exposed to the actual COVID-19 virus.
- mRNA is something we already rely on in our bodies. On a regular basis, mRNA (messenger RNA) carries genetic messages from the DNA to the ribosomes - the “kitchen” of each cell, where the proteins we need for everyday life are made. mRNA is the recipe that carries information for protein production. Our immune system “reads” our proteins to develop antibodies.
- A COVID-19 mRNA vaccine contains the genetic material to make the “spike protein” that instructs the immune system to develop antibodies against COVID-19. This spike protein does not cause disease: rather, once our immune system sees the spike protein made, it builds antibodies to it. The vaccine does not stay in your body and does not change your own body in any way. After the protein is made, the cell breaks down the recipe instructions (mRNA).

### References:

- [SARS-CoV-2 mRNA vaccine design enabled by prototype pathogen preparedness \(Nature, Aug 5, 2020\)](#)
- [Understanding mRNA COVID-19 Vaccines \(CDC, Nov 23, 2020\)](#)

## Can mRNA vaccines mess with genes or change DNA?

- mRNA vaccines do not change your DNA. Human beings do not have the enzymes to convert RNA into DNA. In fact, our cells have enzymes that destroy the mRNA after the protein is made – which is why the vaccine doesn’t stay in your body for long.

### References:

- [COVID-19 and mRNA Vaccines—First Large Test for a New Approach \(JAMA, Sept 3, 2020\)](#)
- [Understanding mRNA COVID-19 vaccines \(CDC, Nov 23, 2020\)](#)
- [Unlocking the potential of vaccines built on messenger RNA \(Nature Outlook, Oct 16, 2019\)](#)

## Can mRNA vaccines cause COVID-19?

- No. The vaccine cannot give you COVID-19 or any other infectious disease. None of the licensed vaccines so far use the live virus that causes COVID-19.
- It is still possible to contract COVID-19 after you have been vaccinated. Like with other vaccinations, it takes a few weeks for the body to build immunity after vaccination. Someone could be infected with the virus just before or just after vaccination and get sick, because the vaccine didn’t have enough time to provide protection.

### References:

- [Pfizer-BioNTech COVID-19 Vaccine Info Sheet \(MOH, December 13, 2020\)](#)
- [Pfizer-BioNTech COVID-19 Vaccine Patient Medication Information Handout \(English and French\)](#)

This Resource was developed by the Centre for Effective Practice and Alberta Department of Pediatrics. Clinical leadership and expertise provided by Cora Constantinescu, BSc, MD, FRCPC, Noah Ivers MD, CCFP, PHD and Kelly Grindrod, BScPharm, PharmD, MSc

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## What are the Pfizer-BioNTech vaccine ingredients? Does it contain mercury, formaldehyde, aluminum, or fetal cells?

- No. It does not contain mercury, formaldehyde, aluminum, or fetal cells.
- The ingredients of the vaccine are:
  - Medicinal ingredient: BNT162b2 (mRNA)
  - Non-medicinal ingredients:
    - 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

### References:

- [Pfizer-BioNTech COVID-19 Vaccine Patient Medication Information Handout \(English and French\)](#)
- [Pfizer-BioNTech COVID-19 vaccine: Authorization information \(Health Canada Dec 11, 2020\)](#)
- [Product monograph, including patient medication information: Pfizer-biontech COVID-19 vaccine \(2020\)](#)

## Is Bell’s Palsy a possible side effect of the Pfizer-BioNTech vaccine?

- No. Among the almost 22,000 vaccinated with the Pfizer-BioNTech COVID-19 vaccine, there were 4 cases of Bell’s palsy. This number of Bell’s palsy cases is consistent with the expected rate in the general population and did not suggest it was caused by the vaccine. Three cases occurred within one month after both doses were completed, and one case occurred later than one month after both doses were completed, and all four patients recovered.
- More research will be conducted as this was the only “imbalanced” occurrence that happened more in the vaccine arm of the study than the placebo arm.
- Those with previous history of Bell’s palsy may still take this vaccine.

### References:

- [Vaccines and Related Biological Products Advisory Committee Meeting December 10, 2020 FDA Briefing Document Pfizer-BioNTech COVID-19 vaccine](#)
- [Product monograph, including patient medication information: Pfizer-biontech COVID-19 vaccine \(2020\)](#)
- [Fact check: Clarifying claims around Pfizer vaccine deaths and side effects \(Reuters, Dec 10, 2020\)](#)