



Fact Check: Addressing False Information About COVID-19 Vaccines

False: mRNA vaccines can alter your DNA

The Pfizer and Moderna vaccines use messenger RNA - or mRNA - to copy a COVID-19 protein so that your body can identify it and form an immune response. This process cannot change your DNA. The mRNA from a COVID-19 vaccine never enters the nucleus of a cell (which is where your DNA is stored). Think of mRNA as an instruction manual for your body to build the tools it needs to fight COVID-19.

False: mRNA vaccines have dangerous ingredients

mRNA vaccines contain no preservatives. The ingredients are: the mRNA itself and a fatty coating layer to protect it; PEG (polyethylene glycol); salt; sugar; and water. Inform your primary care provider if you have an allergy to any of these ingredients. You can find a full list of ingredients in each vaccine [here](#).

False: Health Canada skipped steps to approve this vaccine

All vaccines in Canada are heavily regulated by Health Canada. As a result, it is illegal to sell or market a vaccine in Canada that has not completed all required stages of research or trials. Global funding for COVID-19 vaccine research gave countries the ability to review and compare trial data from around the world (which is usually a long process). The pandemic also meant there were large numbers of participants in clinical trials and lots of natural infection to review data against. You can learn more about the approval process for vaccines in Canada [here](#).

False: Most people will have a serious reaction to the COVID-19 vaccine

An allergic reaction (e.g. anaphylaxis) to a COVID-19 vaccine can occur, just like it can occur with any vaccine, medicine or food. Statistically this risk is low in individuals who do not have an allergy to the vaccine's ingredients. For context, if all 38 million Canadians were to be immunized for COVID-19, it would statistically result in only 76 to 95 people across Canada having an anaphylactic reaction. In comparison, a penicillin antibiotic given to 38 million Canadians would statistically result in 3,800 to 15,000 anaphylactic reactions. Public Health Ontario monitors adverse reactions to the COVID-19 vaccine, which can be found [here](#).

False: This vaccine has long-term side effects

Since COVID-19 vaccines are new, the medical community is monitoring if there are any long-term side effects, as it does with any new vaccination or medication. Common short term side effects include pain, swelling, colour changes in the skin (e.g. red, purple) at the site where the needle was given, tiredness, headache, muscle pain, chills, joint pain, and mild fever. These usually only last a few days. If someone has a more extensive adverse reaction to the vaccine it is reported to Public Health Ontario for follow up. To date, no long-term adverse consequences of the vaccine have been identified for the majority of people who have been vaccinated. You can learn more about vaccine safety [here](#).

We do already know there are lingering side effects of having a COVID-19 infection – even if the infection is mild. Common lingering side effects of COVID-19 infection (named “long COVID-19”) include breathing problems from scar tissue in the lungs, ongoing muscle pain or headaches, organ damage to the heart and brain, blood clots, memory loss, and mood disorders. Clinics are already supporting individuals who have recovered from COVID-19 to help them manage these side effects. It is not yet known how long these side effects will last.



False: COVID-19 vaccines cause infertility.

We have heard that misinformation is circulating online regarding the COVID-19 vaccines affecting fertility. There is no evidence that fertility problems are a side effect of any vaccine, including the COVID-19 vaccine. To combat misinformation about COVID-19 vaccines causing infertility circulating online, the [Society of Obstetricians and Gynaecologists of Canada](#) have released a statement on this topic: “There is absolutely no evidence, and no theoretic reason to suspect that the COVID-19 vaccine could impair male or female fertility. These rumors are unfounded and harmful.” There is no biological reason to expect that reproductive functionality of either males or females would be negatively affected by COVID-19 vaccination.

Only vaccines that Health Canada has determined to be safe, effective and of high quality are approved for use in Canada and made available in Ontario. Like all vaccines, scientists are studying COVID-19 vaccines carefully for side effects now and will continue to study them for many years.

False: I had COVID-19 so I don't need to get the COVID-19 vaccine.

Research on immune response and reinfection after previous COVID-19 infection is evolving. While getting COVID-19 might offer some natural protection or immunity from reinfection with COVID-19, it's not clear how long this protection lasts and how it protects against new variants of concern. The protection you get after having COVID-19 also varies from person to person. Because the level of immunity from natural COVID-19 infection is not entirely clear it is strongly recommended that individuals who previously had COVID-19 get vaccinated.

False: COVID-19 vaccines make you magnetic or contain microchips.

COVID-19 vaccines do not contain metal, magnetic materials or microchips. You can view a list of the ingredients of each COVID-19 vaccine here:

- [Pfizer-BioNTech COVID-19 Vaccine](#)
- [Moderna COVID-19 Vaccine](#)
- [AstraZeneca COVID-19 Vaccine](#)

Video's circulating that show magnet sticking to vaccination sites are likely due to trickery (i.e. licking the magnet before touching your arm, so it sticks) or surface tension caused by oils in the skin. Magnetic reactions to the COVID-19 vaccines are scientifically impossible.

FALSE: Children don't need the COVID-19 vaccine because they don't get very sick from COVID-19 and the vaccines can cause side effects.

Vaccines are safe, effective and the best way to protect yourself, your child and your family from COVID-19. They are an important tool in helping to stop the spread of COVID-19 and allow students and families to safely resume normal activities. While many children have no symptoms (asymptomatic) or have mild symptoms when they have COVID-19, children are still at risk of developing severe illness and complications or long-lasting effects. They can also pass the virus on to others, even if they do not have symptoms. Therefore, it is important that this age group be offered the COVID-19 vaccine. Evidence has shown that the Pfizer COVID-19 vaccine is 100% effective in youth aged 12 to 15 years old beginning 1 week after receiving their second dose of the two-dose vaccine series. Trials are underway to determine if vaccines are safe and effective in children under 12.

FALSE: It's not worth it to get the COVID-19 vaccine because you can still get COVID-19 when vaccinated.

Vaccines help build up immunity to the virus so that your body will fight it off more easily. This can reduce the risk of developing COVID-19 or make symptoms milder if you do get it. On September 14, 2021 the province announced that unvaccinated individuals are 24x more likely to be hospitalized and 43x more likely



to be an ICU patient than fully vaccinated individuals. The COVID-19 vaccine isn't just about preventing COVID-19; it is also about preventing serious illness/hospitalization and death. Vaccines that have been licensed in Canada are demonstrating a high efficacy in preventing COVID-19 disease. For example, the Pfizer and Moderna vaccines have been demonstrated to be over 90% effective and the AstraZeneca vaccine was at least 62% effective against symptomatic COVID-19 in clinical trials.

FALSE: I'm young and healthy, I don't need the vaccine.

Although it is true that older people are more vulnerable to illness or fatality, people of all age groups can be at significant risk from COVID-19. COVID-19 can have life threatening complications and there is no way to tell how it will affect you. Taking the risk of having COVID-19 could be deadly. Anyone can get seriously ill from COVID-19; the Delta variant currently circulating in our area has a higher likelihood of severe illness or outcomes. Also, when the young and healthy are immunized, it keeps everyone in the community safer because the virus has fewer opportunities to spread. Vaccination is an important tool to help stop this pandemic and help us to get back to normal life.

Health Canada Video: <https://www.canada.ca/en/health-canada/services/video/ask-experts-covid-19-vaccines.html#a10>

FALSE: I have my first dose, I don't think I need my second one.

The first dose of COVID-19 vaccine offers you some protection against COVID-19, but not as much as you get from two doses. This is especially true for the Delta variant that is now circulating; emerging data suggest that one dose of the Pfizer-BioNTech vaccine is 33.2% effective at protecting from symptomatic illness due to the Delta variant, and 87.9% effective after two doses. A complete vaccine series is important to obtain maximum protection from variants of COVID-19. [This resource](#) provides information on the importance of a second vaccine dose.

Health Canada Video: <https://www.canada.ca/en/health-canada/services/video/ask-experts-covid-19-vaccines.html#a5>

FALSE: The side effects of the vaccine are worse than getting COVID-19.

Mild symptoms are common after you get the COVID-19 vaccine, such as pain at the needle site, muscle aches or headache. These are normal signs that your body is building protection (which is a good thing!). Side effects generally last one to two days. Severe side effects are very rare. Learn more about side effects of COVID-19 vaccines from [Health Canada](#). Vaccination is a much safer and effective way to develop immunity than being infected by the virus because you don't know how COVID-19 will affect you. Anyone can get seriously ill from COVID-19, particularly with the delta variant that is now circulating in our area.

FALSE: Pregnant people should not get the vaccine.

Pregnant people are at increased risk of severe illness and death from COVID-19. Health experts in Canada agree that COVID-19 vaccines are safe and protect pregnant and breastfeeding people from severe illness. The COVID-19 vaccine can be given at any time during pregnancy or when breastfeeding. Talk to your health care provider if you have questions about the COVID-19 vaccine and [view Ontario's COVID-19 vaccination in pregnancy decision making support tool](#).

FALSE: I can get COVID-19 from the vaccine.

It is not possible to get the COVID-19 virus from the vaccine; none of the COVID-19 vaccines currently authorized for use in Canada contain the live virus that causes COVID-19. It is possible a person could be infected with the virus just before or just after vaccination and still get sick as the vaccine has not had enough time to provide protection. After receiving the COVID-19 vaccine, you will not test positive on a COVID-19 test.