

COVID-19 Vaccine Science

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Vaccines save lives

- Vaccines are one of the best ways to stop the spread of infectious diseases like COVID-19.
- Vaccines help us protect ourselves, our families, and others around us.
- COVID-19 vaccine can help us make our communities safer, start to resume our normal lives and end the pandemic.

The Science

- Scientists all over the world have worked on developing and testing COVID-19 vaccines.
- The technology was recently applied to this situation, but the work has been going on for years.
- COVID-19 vaccines trigger your body's immune system to produce antibodies by making a spike protein, like the one found on the surface of the COVID-19 virus. If you are exposed to the COVID-19 virus, your immune system will be prepared to fight. The vaccines use different methods to achieve this immune response:
 - Pfizer and Moderna vaccines use messenger RNA (mRNA). The vaccine does not contain DNA, and cannot affect a person's genes.
 - The AstraZeneca/COVISHIELD and Janssen/Johnson and Johnson vaccines use a weakened virus (called an adenovirus).
- All COVID-19 vaccines approved in Canada are safe and effective. Clinical trials show high protection against serious disease, hospitalization, and death.
- Pfizer, Moderna, and AstraZeneca/COVISHIELD vaccines require two doses.
- Janssen/Johnson and Johnson vaccine requires one dose. Research is ongoing to determine the effectiveness of the vaccines against the variants of concern.
- There have been no shortcuts taken in developing COVID-19 vaccines. They have gone through all the necessary steps. Clinical trials began March 1, 2020 and have involved many thousands of people. Scientific validation and thorough, independent reviews followed.
- Development of COVID-19 vaccines was done more quickly because of unprecedented worldwide funding and collaboration due to the pandemic.
- Canada has real-time access to manufacturer clinical data for promising COVID-19 vaccines being developed. Health Canada fast-tracks approvals by reviewing data as it comes in – instead of waiting until all the data is in to start to review it.
- There is a lot of misinformation circulating about the vaccine – including that COVID-19 vaccines contain human or animal cells. They do not. Make sure to seek information from credible, science-based sources.

More Information

- Saskatchewan's COVID-19 pandemic response: [Saskatchewan.ca/COVID19](https://saskatchewan.ca/COVID19)
- Canada's vaccination process: <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/awareness-resources/know-vaccine.html>
- Information in English, French, Cree, Dene, Michif and other languages can be found at [Canada.ca](https://www.canada.ca).