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Undecided about getting a COVID-19 vaccine? Here we address some of the common concerns that may be keeping you or your child from getting vaccinated. If your question(s) is/are not answered here, email vislandhealth.info@islandhealth.ca and we'll do our best to get you the information you need.

What is the approved legal status of any COVID vaccine in Canada?

- [Moderna's 'Spikevax'](#) mRNA vaccine has been approved for use by Health Canada for individuals ages 12+.
- [Pfizer-BioNTech's 'Comirnaty'](#) mRNA vaccine has been approved for use by Health Canada for individuals 5+
- [AstraZeneca's 'Vaxzevria'](#) viral vector vaccine has been approved for use by Health Canada for individuals ages 18+.
- [Janssen's 'Johnson & Johnson'](#) viral vector vaccine has been approved for use by Health Canada for individuals ages 18+.

Can the mRNA vaccines alter someone's DNA?

No - mRNA vaccines can not alter a person's DNA for 3 reasons ([source](#)):

1. **Location:** mRNA is active in the cytoplasm of a cell, whereas DNA is protected in a cell's nucleus. The mRNA can NOT enter the nucleus, so the two nucleic acids are never in the same place within a cell.
2. **Process** – mRNA is not DNA. So, if a person's DNA was going to be altered, the RNA would have to be made into DNA. This would require a special enzyme that only exists in some viruses. Coronaviruses are not one of them as they have only single-stranded RNA which means that when they enter into a cell's cytoplasm they don't need to be translated. Proteins (like the spike protein) can be made directly from the RNA.
3. **Stability** – mRNA is not very stable and can only stay alive in human cells for hours.

How do we know the vaccines have been fully, independently and rigorously tested against control groups and what are the subsequent outcomes of those tests?

Health Canada's independent drug authorization process is recognized around the world for its high standards and rigorous reviews. For any new vaccine or treatment, all evidence and scientific data is reviewed before a decision is made to authorize use for the general public. Authorization only happens when the evidence shows that the vaccine:

- is safe, effective and of good quality **and**
- demonstrates that the benefits outweigh the risks

Health Canada also works with [international regulators](#) to collaborate on the review process to get vaccines to market as quickly as possible. However, Health Canada always makes an independent, science-based decision around any vaccine, to be sure it's in the best interest of the public.

For detailed information about the outcome of tests, see:

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- National Advisory Committee on Immunization (NACI) Recommendations and summaries: www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci
- [Health Canada records](#), which include full clinical data used in authorization process

Can you please give me the list of ingredients of the vaccine I am to receive and possible side effects?

- Moderna ‘Spikevax’: [Ingredients](#) and [Possible Side Effects](#)
- Pfizer-BionTech ‘Comirnaty’: [Ingredients](#) and [Possible Side Effects](#) and [Dosages](#) (inc. 5-11)
- AstraZeneca ‘Vaxzevria’: [Ingredients](#) and [Possible Side Effects](#)
- Janssen ‘Johnson & Johnson’: [Ingredients](#) and [Possible Side Effects](#)

What are all of the adverse reactions associated with the vaccines since their introduction?

Find information about reactions in BC on the [BCCDC website](#). Under ‘Monitoring Adverse Events in BC’ you can find a list of weekly reports. Nationally you can find information on the [Health Canada website](#).

What is the likely risk of serious illness should I contract COVID-19?

The incidence of COVID-19 infection, hospitalization and death are significantly higher in unvaccinated vs. vaccinated persons, and the incidence rate ratios are related to vaccine effectiveness. Based on BCCDC data ([November 25, 2021](#)), unvaccinated individuals were 8 times more likely to be infected with COVID-19, 34 times more likely to be hospitalized and 61 times more likely to be admitted to critical care, than vaccinated people. (BCCDC: bi-weekly reports can be [found here](#)).

I’ve heard the vaccine could make people infertile. Is this true? What are the risks?

Zero biological connection has been made between the vaccine and fertility in men, women or kids. COVID-19 vaccination is recommended for people who are pregnant, breastfeeding or who may become pregnant. Pregnant people are at increased risk of serious illness and complications from COVID-19 infection. Vaccines can drastically reduce this risk and can be given safely at any time while trying to conceive, during pregnancy or while breastfeeding. Evidence from around the world continues to grow and has not found any safety concerns for pregnant or breastfeeding people who were vaccinated, or for their babies. Studies have shown that pregnant people who get a COVID-19 vaccine receive the same levels of protection that non-pregnant people do, and that this protection can be passed on to your baby. Read more from the [Canadian Society of Obstetricians and Gynaecologists](#).

Can the COVID-19 vaccine impact menstruation?

The menstrual cycle is a complicated process impacted by multiple factors including sleep, stress, infection, diet and exercise. Getting COVID disease can impact the menstrual cycle, with more than 35% of women and persons who get COVID-19 noting changes in their menstrual cycle after infection. Studies to determine if the impact of the COVID-19 vaccine on menstrual cycle are ongoing, but to date, No theories around how changes in menstrual cycles may occur after vaccination have been proven. Read more from the [Canadian Society of Obstetricians and Gynaecologists](#).

I'm worried the Pfizer vaccine is too new to be given to children.

Pfizer-BioNTech's COVID-19 vaccine is new, but the mRNA technology behind it has been in development for almost two decades. Vaccine makers created the technology to help them respond quickly to a new pandemic illness, such as COVID-19. Other 'normal' [ingredients](#) used to develop the vaccine include fats (which protect the mRNA), salts, as well as a small amount of sugar. None of the COVID-19 vaccines in use in Canada were developed using fetal tissue, and they do not contain any material, such as implants, microchips or tracking devices. As well, children aged 5-11 will receive 1/3 of an adult dosage for both dose 1 and 2.

Given the low risk of COVID in children, why not wait for more data before having my child vaccinated?

Children are less likely to develop severe illness from COVID-19; however, they are still at risk and also can spread the virus to vulnerable adults. As of November 09, 2021, children aged 5-11 years represent 7.5% of confirmed SARS-CoV-2 infections, 0.3% of COVID-19 associated hospitalizations, 0.3% of COVID-19 associated ICU admissions, and 0.007% of COVID-19 deaths in Canada ([source](#)). While children face a much lower risk of severe outcomes from COVID-19, the vaccine will protect them from falling ill with COVID, hospitalization, [multisystem inflammatory syndrome](#) and possible long-lasting COVID symptoms.

What do we know about the long-term effects of these vaccines on growing bodies?

Scientists have only a few months of data on young children. But given that the mRNA molecule in the Pfizer vaccine mimics a natural human process, experts say they are confident that the vaccines are safe for growing bodies.

I had a very bad reaction to my first dose and I'm scared to get my second dose. What do I do?

Sometimes people feel very ill after a dose. This is a good indication that their immune system is reacting well – but it can feel terrible. This does not mean that the second dose will be the same or worse. If you'd like to speak with a clinical advisor, please call your [local health unit](#) to report an *Adverse Event Following Immunization* (AEFI). A clinical staff member will speak with you directly – or follow up with you to discuss your reaction and concerns.

Do COVID-19 vaccines violate the Nuremberg Code?

No. Any claims of forced global experimentation on people that violates the [Nuremberg Code](#) are factually wrong. The Nuremberg Code (created in 1947 following World War II), addresses the treatment of human subjects in medical experiments, and says nothing about the use of tested and authorized vaccines on patients. COVID vaccines approved for use in Canada are long past the experimental stage – and all underwent rigorous, carefully monitored, large-scale clinical trials before being reviewed by Health Canada. During the clinical trial phase, all human participants who took part did so with voluntary consent following the bioethical rules around the development of drugs, as set out in Canadian law professional codes of

conduct. Studies are reviewed and approved by research ethics boards to ensure the protection of participants and the full disclosure of risks of participation, along with very clear language that their participating is voluntary.

Health Canada mandates following international standards of Good Clinical Practice, which were designed to protect the rights, safety and welfare of human participants and ensure the integrity of the conduct of the studies, it will not accept data from trials that did not adhere to these standards. There was no forced participation in any clinical trials for COVID-19 vaccines. Authorized vaccines are deemed safe by Health Canada and are not experimental. Read more about [how vaccines are authorized](#) in Canada.

My employer is making me get a vaccine to keep my job. Who is liable if I experience an adverse reaction to the COVID vaccine? Is it the manufacturer or the employer?

Any person who receives a COVID vaccine is consenting to the provision of healthcare. Read more about health-care consent here: www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/96181_01

If fully vaccinated people can still transmit the virus, how is the general population more at risk from unvaccinated individuals?

Vaccinated people are not as likely to spread COVID-19 as unvaccinated people. It is true that vaccinated individuals can experience breakthrough infections, and when they do, they can potentially infect those who are susceptible – but the risk of them infecting someone with protection is very low, given the protection afforded to that person by their shot. This is the primary reason why mitigation measures, such as masking and good hand hygiene, still make sense to help limit the spread, even for the vaccinated.

Studies indicate that natural antibodies are more effective than vaccines in preventing infection.

This is misleading. Antibody levels are highly variable after recovering from COVID infections, and those at the lower end of the spectrum might be more susceptible to reinfection. For those who have put off getting vaccinated because they've already been infected with the coronavirus, a growing [body of evidence](#) suggests vaccination plus natural immunity leads to particularly robust protection, including against variants of the virus.

People who want natural immunity are willing to risk it. Why can't we make that choice?

As an individual, you can choose not to be vaccinated – but it is important to understand that your choice puts others around you at risk – especially those who are too young to be vaccinated and those with weakened immunity. It is also important to weigh your decision against mandated vaccine requirements at work and for travel, and for entry into sporting/entertainment venues, health-care facilities, restaurants and some businesses.

Were any human or animal embryonic or fetal tissue specimens used to develop/create/test the COVID vaccines approved for use in Canada?

In 1973 and 1985, scientists used fetal tissue from two voluntary abortions to start laboratory grown cell lines. 40-50 years later, scientists now have modified cells that are thousands of generations removed from the original fetal tissue. Vaccine makers Pfizer and Moderna used fetal cell lines from a 1973 specimen during the research and development phase of their vaccines. The AstraZeneca/COVISHIELD vaccine is manufactured using the kidney cell line that was isolated in 1973s, while the Janssen vaccine uses the

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retinal cell line that was isolated in 1985. The cell lines are used widely in academic research and in the pharmaceutical and biotechnology industries.

Although these cell lines are used in the manufacturing process, the final vaccine does not contain any cells. The [Catholic Church](#) has stated that receiving a COVID-19 vaccine that required fetal cell lines for production or manufacture is morally acceptable. All four approved vaccines in Canada were trialed for safety and effectiveness on animals during the non-clinical testing phase.