

WHAT WE DON'T KNOW (YET!) ABOUT COVID-19 VACCINES



By definition, **SCIENCE** is constantly improving. In Quebec, like everywhere in the world, the scientific community is mobilizing in the fight against COVID-19. New knowledge is being accumulated every day to strengthen our ability to fight the virus.

In the months and years to come, as vaccines continue to be distributed globally, there will be **new data that could not be collected during the initial clinical trials**. This will allow us to advance our knowledge and understanding about the effects of the vaccine. The information presented here comes from **data obtained until June 2021**:



Can children under 12 years of age be vaccinated?

At this time, **Health Canada cannot assess the safety and effectiveness of vaccines in children under 12 years of age.**¹

Pfizer-BioNTech and Moderna have already begun procedures for Phase III clinical trials in children under 12 in the United States and Canada.^{2,3} More information will be available from the data that emerge from these trials.



Can pregnant women pass on immunity to their babies?

At the beginning of the pandemic, pregnant women were excluded from the first clinical trials for safety reasons. Today, the results show that **it is preferable to be vaccinated to protect their health and that of the baby**. In addition, a study of Pfizer-BioNTech and Moderna vaccines on more than 35,000 pregnant women showed no signs of risk.⁴ The Government of Canada's recommendation is for pregnant women to get vaccinated.

Regarding the transmission of immunity to the baby, research is ongoing on the Pfizer-BioNTech vaccine:

- A small study of **breastfeeding women** showed that they **produce protective antibodies** and that these antibodies are **transmitted to the baby** through the milk (or through the blood in the umbilical cord for babies who are not yet born).⁵
- More **research is needed to verify that these antibodies are functional** once transmitted to the child and that the immune response does not decline over time.

Will the vaccines be effective against future SARS-CoV-2 variants?



Strong evidence suggests that **both doses of the vaccine are effective against all known variants in spring 2021** (see dedicated fact sheet).⁶

However, it is not yet known whether the efficacy will persist for this long for all of them.

In addition, new variants may emerge where the pandemic is poorly controlled. **The more people are vaccinated, the less likely it is that new variants will emerge.**



How long does vaccination protect me?

Current data indicate that **antibodies against the coronavirus persist for at least 3 months after the 2nd dose of vaccine.**⁷

Companies are already working on manufacturing boosters targeting the new variants. Now that infrastructure is in place for the distribution of vaccines, rollout would be quicker if new doses are needed.



Will we see new adverse events?

The adverse events observed so far are extremely rare. The benefits of vaccination far outweigh the risks of COVID-19 infection. Although new adverse events may occur, it is highly unlikely that they will be common. Millions of people have already been vaccinated and no common serious adverse events have emerged.⁸



When will herd immunity be achieved?

That is not an easy question! It depends on all of us, and the only way to find out is to get vaccinated in large numbers! What is clear is that vaccines do not need to be 100% effective, nor does the population need to be 100% vaccinated. Experts suggest that a 60% effective vaccine given to about 80% of the population would be enough to stop transmission.

REFERENCES

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