



First Nations Health Authority
Health through wellness

COVID-19 Vaccines (Pfizer-BioNTech and Moderna) – How They Work

It is understandable to have questions as COVID-19 vaccination programs roll out. To keep you informed, the Medical Officers at the FNHA are providing information on how the two new vaccines teach your body to protect itself against the virus that causes COVID-19.

COVID-19 AND mRNA VACCINES

As soon as scientists identified COVID-19 as a deadly infectious disease, they began working to develop vaccines for the virus that causes it, SARS-CoV-2.

The Pfizer-BioNTech and the Moderna vaccines are available in Canada. Both have undergone rigorous clinical testing and Health Canada has approved them as safe for use. Both vaccines use messenger RNA (mRNA) to teach our cells how to make a protein that triggers an immune response. Our body then makes antibodies that help us fight the infection if we contract the real virus.

The vaccines don't include any parts of the SARS-CoV-2 virus. Instead, they contain instructions, like a recipe, that tells your cells to make a harmless piece of protein that makes up the coronavirus' spikes.

The vaccine has no impact on your DNA (genetic material). After your cells make the spike protein, the cells destroy the mRNA. This mRNA never enters the central part (nucleus) of the cell where your DNA is found.

Your cells then display the spike proteins on their surface. Your immune system recognizes that the newly created spike protein is a foreign substance, and it begins making antibodies as part of its immune response.

If COVID-19 enters your body after you have been vaccinated, your immune system knows exactly what to do because it has "seen" the spike proteins before. Your immune system recognizes the coronavirus as a foreign substance and will know how to destroy the virus before it can make you sick. Studies have shown that people who have had the vaccine are at a far lower risk to contract COVID-19, and if they do, they are much less likely to have severe illness or die.

After you are vaccinated, you might feel some pain around where you received your injection and mild flu-like symptoms. These are signs that your vaccine and your immune system are working.

For a more detailed FAQ on the COVID-19 mRNA vaccines, visit fnha.ca/coronavirus.