



Special Edition



COVID-19 Vaccine

Know your facts and make informed decisions



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The biggest event to splash the front page of news outlets this month has been the release of the COVID-19 vaccines made by Pfizer Pharmaceuticals and Moderna. This has flooded your social media feeds with articles and posts that either promote the vaccine or urge you to be wary. We want to make sure you have accurate, evidenced based information so not only you can be an informed citizen of the world, but you can help educate those around you.



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COVID-19 Vaccine Primer

In order to understand how this vaccine works there a couple key facts you must understand. Don't worry! I'm not about to launch into a detailed immunology lecture. I will try to keep it basic and easy to understand.

Your body is made up of billions of cells. Each cell contains many parts that do a certain job. Ribosomes are a part of the cell that make the instruction from codes called DNA or mRNA or RNA. These instructions then tell the cell what to do or what to become.

Our immune system is sometimes lumped all together to be called "white blood cells". There are actually many different types of white blood cells. There are some you should know:

Macrophage: like a little Pac-Man; gobbles up foreign objects and makes them into antigens which attracts the other white blood cells to scene.

B Cells: are trained to recognize antigens and produces specific antibodies to fight and kill the foreign invaders

T-Cells: are also called memory cells. They remember specific antigens and then when they see them hanging around again- they quickly mobilize your body to produce antibodies to fight the invaders. It's kind of like that friend that holds grudges. They won't forget nor let you forget any past transgression and are quick to remind you of the past.

Going back to the COVID-19 vaccine...

The COVID-19 virus has this little rascal sticking out of it called a "spike protein" that is unique to that virus. It's like a little cap that it wears as it's calling card. Well, scientists have discovered the mRNA code to make that protein! This is GREAT! This means we don't have to inject a small amount of the actual virus inside of you to provoke an immune response like we usually do with other vaccines.

When you get the vaccine, you get injected with the instructions...only the instructions...NOT THE VIRUS. The mRNA (instructions) to make this spike protein gets into cells and the ribosomes pick it up and think, "hmmm this looks interesting- let's transcribe this!". They do and now a spike protein is sticking out of a regular old cell. It's still a normal cell, just wearing that little "Covid Cap". Along comes a macrophage who, of course, gobbles up the cell and presents that spike protein to all the other white blood cells. The T and B cells get a little jumpy, they don't like strange looking objects. They start to call in the troops to make antibodies to this spike protein. Now, you have antibodies to COVID-19 without having to risk the consequences of getting sick with COVID-19. So, if you happen to become infected with the COVID-19 virus, your body will be well prepared to kill it.

Quick Facts

- The science behind a mRNA vaccine is not new! It has been studied for decades. Historically it has been primarily used to fight cancer.
- mRNA vaccine DOES NOT contain the live COVID-19 virus
- The mRNA DOES NOT get inside the nucleus of your cell. Remember- it's the ribosomes that do the work. The cell that makes the spike protein gets destroyed by the macrophage.
- You will need two doses of the vaccine- separated approximately a month apart.
- With all vaccines (like the flu vaccine), it takes a few weeks for your body to mount an immune response and produce sufficient antibodies and memory T-Cells. This means you could get the COVID-19 virus between the time you get the vaccine and your body mounts a response...so continue to wear your mask, physically distance and wash your hands.
- The vaccine was able to be released so quickly because the 'red tape' of vaccine approval and production was eliminated... NOT because the research was hastily done.

One last thought about the vaccine:

Fighting a pandemic requires us to use all the tools at our disposal. We know that this vaccine will help reduce the spread of this virus and most importantly reduce deaths from COVID-19 infections. While the medical community is continuing to learn more about how this vaccine protects us in real-life conditions we urge you to continue to protect yourself and your family. Currently, there is not enough information for the CDC to determine when and if to lift the masking and physical distancing recommendations. This is why you will see Dr. Duchicela and his staff continue to wear masks and practice physical distancing even after getting the COVID-19 vaccine.

Currently, the clinic DOES NOT have any COVID-19 vaccine doses available for the staff or patients. Healthcare personnel who work in a variety of health care settings will get the vaccine first. Large hospitals and medical centers were given priority in the distribution of the first allotment of vaccines. Our staff hopes to be on the receiving end soon. Rest assured, that our staff is working hard to secure the COVID-19 vaccine for you as soon as possible.

Please consider going to the CDC website for more information:

<https://www.cdc.gov/coronavirus/2019-ncov/vaccines/index.html>