

Regional School District No. 7

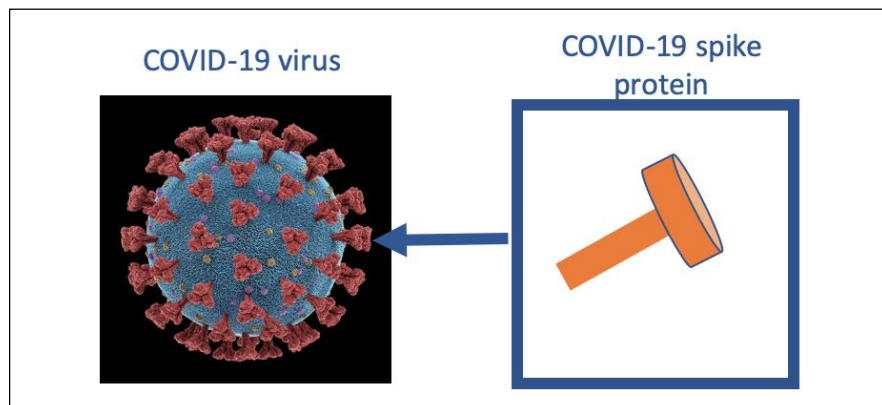
Superintendent's Newsletter

January 4, 2021

Judith A. Palmer, Ed.D

Dear Northwestern Families, Staff and Students,
I have received this important information from Dr. Michelle McDade, Associate Chief of Emergency Medicine for The Hospital of Central Connecticut. It is an excellent overview of the COVID-19 vaccine and how it works. I hope you find this information helpful.
Judy Palmer

The summary below was written by Dr. Michelle McDade, an Emergency Medicine Physician with nearly two decades of medical experience. She has worked on the frontlines of the pandemic and has focused her career on consistently keeping current with the medical literature. This overview is the result of a collaborative effort with a nurse on the forefront of nursing education and was developed to provide members of their healthcare team with the most current information regarding the COVID-19 vaccine not only for personal decision-making but also to help educate their patients. *I am grateful for Dr. McDade's generosity in sharing this information with our school community.*



1. How does the COVID-19 vaccine work?

The vaccine for COVID-19 is unlike any other vaccine developed in the past. Previous vaccines have consisted of either a dead virus or a weakened form of a live virus (attenuated virus), that is injected into the body. The immune system then responds to the dead or attenuated virus over the next two weeks and makes antibodies. The antibodies are then stored in the memory bank of the immune system. If the vaccinated person is exposed to the actual virus by another person, the stored antibodies come out immediately and destroy the virus before the person can become ill.

The vaccine for COVID-19 is entirely different. It is made from messenger RNA (mRNA), which is a fancy term for a molecule with a code that prompts the body to create protein. In this case, the mRNA stimulates the body to create a protein that is similarly shaped to the spike protein (large orange spikes that we have all seen on the pictures of the outside of the COVID-19 virus). The spike protein that is created does not cause harm. It is not infectious, it is not a virus, and it does not replicate itself. It is just a little protein that looks like the outside of the COVID-19 virus.

The spike proteins that are created are recognized as foreign by the body. Over the next two weeks the body makes antibodies against this spike protein for storage in the memory bank of the immune system. If the immunized person gets exposed to the actual COVID-19 virus by another person, the body will recognize the spike protein on the outside of the COVID-19 virus and initiate a response to destroy it. The person never gets ill as a result of the vaccine.

The sophistication and elegance of this process is truly revolutionary and remarkable.

2. Is the vaccine safe?

There are two companies that have been in the forefront of vaccine development, Pfizer and Moderna. In order to determine safety and efficacy (how well it works), large clinical trials were initiated. During both sets of trials, each participant received the vaccination twice, about a month apart. A total of nearly 75,000 participants were included in these trials – this is a very large number of participants in comparison to typical clinical trials.

The reports describe that many patients experienced pain at the injection site and generalized fatigue after the first injection. The second injection was associated with body aches, fatigue and flu-like illness lasting approximately 24 hours. Many people reported that medications like ibuprofen managed those symptoms well.

3. If I experience symptoms after receiving the COVID-19 vaccine, could it mean, that I got COVID-19 from the vaccine?

No. The vaccine neither contains nor causes COVID-19. Although it is the tendency of the public to be concerned about experiencing these symptoms with the belief that it is an indicator of “getting the virus”, that is not the case. Experiencing the above symptoms is actually an indicator that the body is responding appropriately to the spike protein and creating a defense against the COVID-19 virus (remember, the virus itself is NOT injected into patients). In the nearly 75,000 patients who have so far received the two doses of the vaccine, the data has shown a good safety profile and 90-95% efficacy.

4. How long will the protective effects of the vaccine last?

It is currently unknown. The vaccine for COVID-19 is predicted to create immunity that lasts 1-2 years if the full two doses of the vaccine are administered. Similar to other vaccines, such as the flu vaccine, there may be a need for additional booster shots. Although we do not know with certainty, experts estimate boosters may be required every year or so.

5. Can't I just wait to get the vaccine?

The important concept to understand is that if many people receive the vaccine in a short period of time, then the COVID-19 virus can be eradicated. If large groups of people hold off on vaccination, then the COVID-19 virus will thrive in those populations and require that immunized people to continue to need re-vaccination and the cycle will continue.

6. Do I need to worry that this vaccine got made too quickly?

Past vaccines that were made of dead or live attenuated viruses were grown in petri dishes (time consuming) and then purified to a medical grade (also time consuming). Every step had great potential for error, which took additional time to rectify (time consuming yet again). The process for creating this mRNA vaccine is much simpler, requires less steps, and has been in development since the virus was first identified in Wuhan, China. Therefore, the speed at which this mRNA vaccine has been created may seem fast, when in fact the process is just different. The other factor that has decreased development time is related to abundant funding. There is no greater need in the world at this time than vaccine development. With past vaccine development, the process was halted between steps in case approval was not granted, preventing spending money on phases that would never progress. This time, the vaccine development continued forward in anticipation of approval.

7. If I had COVID-19 should I still get the vaccine?

Although it is not known with certainty, experts are recommending that individuals are vaccinated even if they had COVID-19 infection. The reasons for this are multifaceted. First, studies show that the immunity for those who receive the vaccine lasts longer than immunity developed by a COVID-19 infection (only 3-6 months immunity from COVID-19 infection). Second, the studies have shown that antibody levels are 5-20% higher in those vaccinated as compared to those who had natural infection. Third, studies that reviewed immunity from those recovering from COVID-19 infection have shown that the body's response to the infection does not always produce antibodies perfectly. This is somewhat unusual. For example, if someone has had chickenpox, there is no need to get immunized for chickenpox. However, recovery from COVID-19 does not always leave a person fully protected.

8. Do I still need to wear a mask if I get vaccinated?

Yes. We know that once an individual is vaccinated that individual is protected from getting sick with COVID-19 symptoms. However, we do NOT yet know if the vaccine prevents individuals from carrying the virus and spreading it to others despite not having symptoms themselves (these studies have not yet been conducted). This is important because until it is proven that vaccinated people cannot asymptotically carry the virus for spreading to others, or until enough people have been vaccinated to provide herd immunity, masks will still need to be worn in appropriate settings to prevent infecting others.

9. Should the vaccine for COVID-19 be required?

So far, the vaccine seems promising for both safety and effectiveness; however, we do not yet have enough information to make it mandatory for populations of all types. For example, we do not know how this vaccine may affect those who have cancer, autoimmune disorders, or compromised immune systems.

10. "I am still afraid of the vaccine after reading all of the information above."

We have to be honest with ourselves and acknowledge that fear may be the biggest barrier to getting the vaccine. This fear is not insignificant. The vaccine is new and it is natural to fear what feels unknown. With time and data collection we will increase our certainty about the vaccine, but for now, we have to weigh the partial uncertainty and fear of the vaccine with what we know about COVID-19 infection with certainty.

We know that many patients have recovered from COVID-19 infection without significant complication and we know that millions of people have died from COVID-19 across the world in less than one year. We also know that many patients who got sick and recovered from COVID-19 have displayed long lasting effects including cardiomyopathies (weak hearts), coagulopathies (clotting disorders), encephalopathies (brain issues) and a myriad of other issues. Even patients recovering from mild disease have reported ongoing symptoms of fatigue, headache, "brain fog", dizziness, and muscle aches to name a few.

For those worried about the long-term effects of the vaccine with the argument that it is new and has not had sufficient time to determine long-term effects, it is important to consider that we are also in the early stages of learning about the long-term effects of COVID-19 infection, some of which may have not yet surfaced.

11. My personal opinion as an Emergency Medicine Physician working on the frontline in the midst of this pandemic:

I have seen the death and long-term complications of COVID-19 firsthand. I am afraid of getting sick and/or developing any associated issues that may impact me and my family for a prolonged period of time. My fear of COVID-19 is far more significant than any unknowns of the vaccine.

I have spent nearly two decades in medicine, consistently kept current with the literature, and feel that there has never been science with such potential worldwide impact in our lifetime. I am hopeful that the vaccine will finally lift us out of this difficult time and I am comforted by the fact that historically speaking, vaccines have saved more lives than all other medical advancements put together.

The science of this vaccine is truly remarkable. I hope that it works as well as we are expecting and I am confident that if it does, its success will be worthy of the Nobel Prize.

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NWR7 Quarantine Time for Close Contacts:

You may have heard about the new CDC guidance on quarantine times for close contacts of COVID-19. At this point, we are not reducing the 14-day time frame. This may change based in the future, but for now we plan to stay the course for the following reasons:

- CDC has NOT changed the incubation period for COVID-19—individuals can develop symptoms and disease 2-14 days after an exposure, although the risk does decrease after day 10.
- In a school setting, where we are implementing every mitigation strategy to reduce the risk of disease transmission, it is prudent to be conservative with respect to exclusion of potentially exposed individuals.
- Farmington Valley Health District is recommending we stay with the 14-day quarantine for close contacts.

For more information on quarantine, see the following link:

<https://www.cdc.gov/coronavirus/2019-ncov/more/scientific-brief-options-to-reduce-quarantine.html>

Thank you for your support of NWR7 during this difficult and trying time.