COVID-19 Vaccine Safety – Being Fearless

The practice of immunization dates back hundreds of years and has saved countless lives. In 1798, the first small pox vaccination was developed. Today over 40 additional vaccines now protect us and our loved ones from permanent disability and/or death. When the health crisis and risk is great, vaccines can be developed quickly and safely with the right funding and focus. In fact, the first inactivated polio vaccine was tested in 1954 by volunteers for less than one year before being distributed to children with an incredibly positive outcome. That's a very similar timeline to the development, testing and distribution of the recent COVID-19 vaccine, which was developed with the added safety assurance associated with medical advancement protocols.

The Human Resources team is continuing to receive questions and concerns about the COVID-19 vaccination. Some of the feedback is valid (injection site pain, mild headache, etc.) while some of the feedback is clearly speculation or rumor. Given the vaccine is truly lifesaving and the only way to end this worldwide pandemic (in the past year there have been over 2.06 million deaths worldwide with over 402,000 of those in the United States), we hope the following Q&A helps you better understand the vaccine so that you can fearlessly take part in one of our many free vaccine clinics and you are educated to help answer questions from your family and friends.

Q). How do vaccines work?

A). Vaccines help our bodies develop immunity to viruses without us having to get the illness. Different types of vaccines work in different ways to offer protection, but with all types of vaccines, the body is left with a supply of "memory" T-lymphocytes (T-Cells) as well as B-lymphocytes (B-Cells) that will remember how to fight that virus in the future.

Q). I heard the vaccine will inject the actual coronavirus into my body and give it to me. Is this true?

A). This rumor has created some confusion. Currently, there are three main types of COVID-19 vaccines that are or soon will be distributed within the United States. Below is a description of how each type of vaccine prompts our bodies to recognize and protect us from the virus that causes COVID-19. None of these vaccines can give you COVID-19. ***At this time, our vaccine clinics are only providing the Pfizer or Moderna mRNA vaccines.***

- **mRNA vaccines (Pfizer and Moderna)** give our cells instructions to make a harmless piece of what is called the "spike protein" that is unique to the COVID-19 Virus. After our cells make copies of the protein, they destroy the mRNA material. Our bodies recognize that the new protein should not be there and it builds an immune response. It does this by building T-Cells and B-Cells that will remember how to fight the virus that causes COVID-19 if we are infected in the future.
- **Protein subunit vaccines (not available)** include harmless pieces (proteins) of the virus that cause COVID-19 instead of the entire virus. Once vaccinated, our immune system recognizes that the proteins don't belong in the body and begins making T-lymphocytes and antibodies. If we are ever infected in the future, memory cells will recognize and fight the virus.
- **Vector vaccines (not available)** contain a weakened version of a live virus—a different virus than the one that causes COVID-19—that has genetic material from the virus that causes COVID-19 inserted in it (this is called a viral vector). Once the viral vector is inside our cells, the genetic material gives cells instructions to make a protein that is unique to the virus that causes COVID-

19. Using these instructions, our cells make copies of the protein. This prompts our bodies to build T-lymphocytes and B-lymphocytes that will remember how to fight that virus if we are infected in the future.

Q). It seems that testing was rushed. Why should I feel safe about the vaccines?

A). The vaccines for the novel coronavirus went through the same layers of review and testing as other vaccines. Due to the dire nature of the pandemic, certain barriers to development, related to funding and manufacturing, were removed. You can read more about this here.

Q). Is it true the vaccine will affect my ability to have children or pass on a mutation to my future children?

A). No. There is a lot of misinformation out there regarding this due to a rumor started on social media. The mRNA COVID-19 vaccines are NOT associated with infertility and are rapidly broken down by the cell once the instructions have been transmitted, so it does not cause mutations or cellular defects. Research has found no link between the mRNA vaccines and fertility. In fact, 12 women in the Pfizer vaccine trial and six in the Moderna trial became pregnant after getting the vaccine. This is the same rate as those who received the placebo in the trials. The vaccine creates antibodies to the virus, not to any human cells. Women who have been infected with COVID-19 and developed these antibodies naturally have become pregnant. In addition, two large studies of pregnant women in Philadelphia and in England found no increase in preterm births or still births among women infected with COVID-19. You can read more about this here.

Q). I also heard the vaccine injects a tracking device into my arm. Is this true?

A). No. This is another social media rumor started due to a misunderstanding about expiration date tags and counterfeit drug protocols. Neither the Pfizer nor Moderna vaccines utilize any type of tracking device. You can read more about this here.

Q). I heard the vaccine is unsafe. How do I get comfortable with the vaccine?

A). It's ok to be fearful of something new but the vaccine has been proven to be very safe with a very important and positive outcome. Without it, this pandemic will not end.

Hopefully this Q&A has helped you better understand the safety of the vaccine and why it's important to receive it. The following informational Q&A's are also a must reads to further understand the vaccine here and here.

If you still feel uncertain about the vaccine, we encourage you to speak with your healthcare provider before declining the opportunity for one of our first phase vaccine clinics. The vaccine serum is precious and still hard to come by. We don't want you to miss your opportunity to receive the vaccine right away.

Q). How do I sign up for our onsite vaccine clinic?

A). Speak with your Administrator or Director of Nursing at your facility. Three facility clinics provided by our pharmacy partners are occurring now and will be completed likely within the next month. Alternatively, you can contact your "Vaccine Champion" or HR Resource for further information about the facility vaccination clinics. Finally, there may be opportunities to receive the vaccine through local public health options. Reach out to your local public health for further details on obtaining the COVID-19 vaccine through community opportunities. These will vary by state and county.