



The Vaccine

Preventing COVID-19

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The worst of the pandemic is here, and will be for the next four to six months, even with the vaccine rollout beginning yesterday (in America). Please wear masks and socially distance, as many in our country refuse to do so. Protect yourself with grace, and calmness, and fortitude. Fear is not welcome here, respect and caring provide hope and the reflection necessary for all of us to choose wisely.

Four vaccines stand on our immediate horizon, and dozens more loom on the not-so-distant horizon! The Astra Zeneca and Johnson & Johnson vaccines use simian adenovirus reconstructions to shuttle in coding for SARS-CoV-2 and also utilize adjuvants. Preliminary data shows less efficacy and higher risk, thusly I am not recommending them unless something drastic changes.

The mRNA vaccines from Pfizer, garnering EUA (Emergency Use Authorization) last week and Moderna, EUA expected this week, hold the greatest promise. Messenger RiboNucleic Acid (mRNA) is colloquially understood as the operational software to the better recognized Deoxyribo Nucleic Acid (DNA) of double helix fame. When mRNA from a viral source is delivered in liposomal packages, the message is “seen” as if coming from our DNA and a protein comes forth, in this case the now-legendary spike protein. Our immune system recognizes this protein as foreign, attacks it; this immune response prevents COVID-19. mRNA does not interact with your DNA! No intact live, or disabled, or re-engineered viruses involved. No growth media, and, more importantly, no adjuvants required to augment the immune response and drive our immunity into a myriad of mistakes associated with said adjuvants!

The negatives are obvious. This is a new technology for vaccine delivery and no others exist, meaning we have no long-term safety data on these or any mRNA vaccines. The liposomal delivery systems both have a PolyEthylene Glycol (PEG) component and the anaphylactic reactions in the UK most likely involve this substance. How commonly this occurs is unknown. Standard side-effects like fever, injection-site redness and joint pains are typical when you induce an immune response, and very expected with a successful vaccine.

And here is the biggy: Both studies exclude people under 16, women who are pregnant or lactating, people who take immunosuppressing medicines, people with history of severe allergic reactions, and those who have previously contracted SARS-CoV-2. Yet all these people, specifically those on the frontline, will be encouraged to get the vaccine even though it has never been studied before in these excluded groups. True guinea pigs. I am especially concerned about reactions in those who are already immune (yes, I know this is its own article). *I am not recommending any vaccine for those who have even had a mild case of COVID-19 as the vaccine has never been tested in these people!*

Both vaccines require two doses, Pfizer at 21 days, Moderna at 28 days. Moderna has at least 8 other mRNA vaccine candidates in the pipeline (for other viruses) and have the prior trials documenting the

stability of the liposomes involved, most importantly their vaccine requires freezing, but not the minus 70 degrees Celsius of the Pfizer vaccine. Post-marketing surveillance for both will be key to determine their actual safety.

That I have to add this paragraph I find quite sad, but here goes. Everyone knows I don't trust Big Pharma. The vaccine programs that we (America) give to our children amount to reckless child endangerment. No, Leo has yet to get a vaccine, and won't get this one as it has not been tested in his age group. Yet we have to look at the marvel of a vaccine coming out within one year of sequencing its genome and give thanks to advancements in molecular biology answering a crisis of humanity that average humans seem disinclined to care enough about others enough to wear a mask. This vaccine is not a part of a plot by Fauci, Gates or whichever bogeyman the Neo-Nazis of America wish you to believe. There is no microchip.

*Finally, I will choose the **Moderna vaccine** for my patients who choose to vaccinate.* There were only 10 cases of critical COVID-19 in the Pfizer trial, 9 in the placebo group, 1 in the vaccinated group. There were 30 cases of critical COVID-19 in the Moderna trial, all in the placebo group. The Pfizer trial is available here:

https://www.nejm.org/doi/full/10.1056/NEJMoa2034577?query=recirc_mostViewed_railB_article and I will link to the Moderna trial when it reaches published format. Both vaccines prevent all COVID-19 with approximately 95% effectiveness, preventing severe/critical COVID-19 is the key and possibly where the Moderna vaccine prevails. I will get the **Moderna vaccine** to demonstrate my willingness to protect anyone willing to listen. There will be a long line of people ahead of me, it is unlikely I will vaccinate before springtime. If you have a loved one on the front lines or in long term care encourage them to get the Moderna vaccine.

Your Journey to Health and Healing,

Gary E Foresman MD