FAQ’s Regarding COVID-19 Vaccines

Q: **How did we get these vaccines so quickly?**

A: In the past it has taken 10 plus years and at least $1 billion to develop a vaccine. The federal government stepped in with Operation Warp Speed to provide significant resources to allow companies to dedicate all their effort and time into COVID-19 vaccine development. The federal government has paid close to $8 billion split between Pfizer, Moderna, AstraZeneca and Novavax. There is also the fact that we have years of research on different vaccine techniques (including mRNA), as well as information on previous coronaviruses, providing a solid base from which the companies were able to work from. Combining these resources with our historical data has paid dividends with the speed in which these new vaccines have been developed.

For the Pfizer vaccine, another reason why things were produced so quickly is because many steps were done in parallel with one another. As the pandemic hit, while Pfizer was engaging in their clinical trials, they also were simultaneously ramping up their manufacturing side for the vaccine. That is not how it is normally done; it is a risk for a company to mass produce a medication prior to completion of their testing, but they took on that risk knowing the need for rapid distribution of the vaccine. Fortunately, their efforts paid off, hence the shortened timeline.

Q: **What are the types of vaccines that will be available?**

A: In the United States, there are a few companies currently working on a vaccine for mass production and distribution. They are using different technologies, so let us address them, one by one:
a. **mRNA vaccines**: The first two vaccines that came to market, from Pfizer and Moderna, use a new technique involving mRNA, or messenger RNA, which is the blueprint on how a cell makes a specific protein. In the past, most vaccines produced have had at least a piece of the virus itself, either in live or dead form, to initiate the immune response. Instead of giving a piece of the virus, the Pfizer and Moderna vaccines use the mRNA of the spike protein found on the coronavirus. The spike protein is how the virus enters the cells and infects it. By giving mRNA, your own body can then create the protein yourself, and just the protein, not the virus, and then your body can create an immune response; the cell then breaks down the mRNA after it is used to create the protein. This technique essentially turns your own body into the manufacturer and incubator to produce the immune response to the spike protein. Afterwards, if you were to be exposed to COVID-19, your body will already have antibodies to attack the spike protein and prevent the virus from entering the cell. It is given in two doses, spaced apart, a primer, then a subsequent booster shot. The Pfizer vaccine has a 21-day time frame in between injections, Moderna is 28-days.

b. **Adenovirus vector vaccines**: This is the method in which the Johnson & Johnson and AstraZeneca vaccines are going to work. It takes a common virus, adenovirus, and makes modifications to it, removing its ability to copy itself and altering the viral DNA to contain the code for the spike protein found on the coronavirus. The vector in which to get the spike protein information into the cell is done by using the adenovirus. The adenovirus enters the cell, and then the cell makes the spike protein, which leads to the immune response.

c. **Protein vaccines**: This is the Novavax vaccine that is currently being developed. This is using existing technology that is seen with the Hepatitis B and HPV vaccines, which have been used for some time now and have been very safe and effective. The spike protein is created in a lab by using yeast cells, and then combined with an adjuvant, which is a chemical used to stimulate the body to form an immune response. These two are injected as the vaccine, causing your body to form the necessary antibodies to protect yourself.
Q: **Are there pros and cons to each vaccine? Does it matter?**

A: Yes, there are, and each vaccine is discussed separately below. Regardless, seeing the data for each vaccine prior to getting it will be an important step, and all companies have been forthcoming about being transparent with their data so all can review it.

  a. **mRNA vaccines:**
     a. **Pros:** Appear to have remarkably high efficacy and safety from the current data, and appear to be easy to manufacture, which is helpful when you need to perform rapid, mass vaccinations.
     b. **Cons:** They appear to be difficult to store, with the Pfizer vaccine in particular requiring super cold freezers, and the fact that it is a “new” technology in vaccine creation.

  b. **Adenovirus vector vaccines:**
     a. **Pros:** Relatively easy to manufacture and transport, plus the Johnson & Johnson vaccines seems to only require one dose.
     b. **Cons:** These have been the two trials that were stopped at some point for concern of adverse effects, they have since been cleared and have been back in trials. Those concerns were not validated, but it did disrupt the trials.

  c. **Protein vaccines:**
     a. **Pros:** This is established technology that is used today effectively.
     b. **Cons:** It takes longer to manufacture, and there is limited data on safety and efficacy since they are just entering their phase 3 trials.

Q: **This mRNA technology is new, so why should I trust it?**

A: It is not as new as you think. mRNA technology was discovered over 30 years ago and has been studied as a potential way to deliver vaccines for close to two decades. There have been early-stage clinical trials using mRNA for influenza, Zika, rabies and cytomegalovirus (CMV), but there were challenges in developing this technology. Recent technological advancements in the RNA biology, chemistry, and delivery system has address those challenges, making them possible. It also helped that significant resources were used to fund these efforts.
Q: Can the mRNA affect and alter my DNA?

A: No, it cannot. Your DNA serves as a template to sequence the mRNA inside the nucleus of the cell. The mRNA is then transported out of the nucleus and brought to the ribosomes, which are the protein-making machinery of the cell. The mRNA is the blueprint in which the protein is made. These mRNA vaccines basically skip the nucleus part and go directly into making the protein by use of those ribosomes, your DNA is safe.

Q: These vaccines were produced very quickly, are we sure that they are safe?

A: Yes, we are. All these vaccines still must go through multi-phase trials, culminating in what is called “phase 3” trials, which are randomized, double-blind, placebo-controlled trials. In essence, you have a group that gets the vaccine, and another group that gets a placebo, except neither the person administering the injection, nor the person receiving it know which one they are getting. They then review to see if the volunteers catch the virus or not. With the acceleration of COVID-19 in the United States, it unfortunately increased the chance of exposure and catching the virus, which has helped with the ability for an independent board to review the results to see if patients caught the virus or not. Since it is most often that serious adverse reactions occur within the first 2 months of administration, that is why we had to wait to ensure that no individual had a serious adverse reaction, which appears to be the case with both the Pfizer and Moderna vaccines. We also admittedly do not know long-term side effects, but that is a common state for almost all medications that are introduced into the market.

Q: I have heard the survival rate for COVID-19 is as high as 99%, so why should I bother getting the vaccine?

A: There is a big difference between surviving and thriving. There is a group of COVID-19 patients called “long-haulers,” they have symptoms that can persist for months. Injuries have been noted to the heart, lungs, and brain, and it can affect young, healthy patients as well. These symptoms can last weeks to months and
potentially could lead to medical issues in the future. Currently, we cannot predict who could get these symptoms, and who does not; it also does not require you to be in the hospital to have long-term problems. With what we know as of now, you are better off with the short-term potential side effects and 95% effective rate of the vaccine versus the potential long-term health damage you could have from a COVID-19 infection.

Q: **When they say the Pfizer vaccine and the Moderna vaccines each has an efficacy rate of around 95%, what does that mean?**

A: When the clinical trials were designed, the primary endpoint for the study was to see how many people developed COVID-19 who received the vaccine versus those people who received the placebo. The study was set to be deemed successful if they found a vaccine effective rate of at least 50%. In reality, the data from the Pfizer vaccine trials show that out of all observed cases of COVID-19 of the study participants, in which there were 170 of them, 162 of those cases were in the placebo group, with the other 8 being in the vaccine group, giving an observed efficacy rate of about 95%. From the Moderna trials, for all participants 18 years of age and older, they found 5 COVID-19 cases in the vaccine group, and 90 cases in the placebo group, giving a rate of about 94.5%.

Q: **If I get the vaccine, does that mean I no longer can infect others?**

A: We do not know that answer right now. The newest data on the Pfizer and Moderna vaccines have their efficacy in the 94-95% effective range on protecting the individual from the virus, but there is not enough data yet to know if that person can still be a carrier and infect others. More research is needed, which is why for now people still need to follow the guidelines of mask-wearing and physical distancing.

Q: **Are there side effects from the vaccine?**

A: Currently there have been reports of some people getting mild side effects after receiving the vaccine, like what is seen when you get other vaccines. It has ranged from a sore arm where the injection was, to flu-like symptoms that have lasted anywhere between 1 to 2 days. You should not be alarmed if you
get these symptoms after getting the vaccine, as it is a sign that your immune system is working. Many participants who received the vaccines in the trial did not report side effects. If you were to experience side effects that differ from what you have heard, you should inform your physician right away.

For more information, the CDC has dedicated sites to the Local Reactions, Systemic Reactions, Adverse Events and Serious Adverse Events of each vaccine, they can be found here:


Q: I heard there were some severe allergic reactions to the Pfizer vaccine, is that true?

A: There have been reports are that a handful of people who received the Pfizer vaccine had a significant allergic reaction; these are a handful of people out of hundreds of thousands who have already received it. Allergic reactions can happen with vaccines. Realize that when you get the vaccine, you will be in an area that will briefly monitor you, and if you have any underlying allergies or conditions, you should speak with your physician first before getting the vaccine. They are currently investigating as to why these individuals had an allergic reaction to the vaccine.

Addendum – 1/10/2021:

Per the CDC, during the monitoring period from December 14-23, 2020, there were 21 cases of anaphylaxis after giving 1,893,360 first doses of the Pfizer-BioNTech CoVID-19 vaccine. 71% of these events occurred within 15 minutes of receiving the vaccine.

During that time, there were reports of 4,393 (0.2%) adverse events after the first-dose of the vaccine. For further details, please refer to the following links:

- https://www.cdc.gov/mmwr/volumes/70/wr/mm7002e1.htm
- https://www.cdc.gov/mmwr/volumes/70/wr/mm7002e1.htm#T1_down
Q: If I already had COVID-19, should I get the vaccine?
A: Yes, you still should get the vaccine, according to experts. From what we know about other coronaviruses, we do not appear to have long-lasting immunity after exposure to them, so there is an unknown if exposure will give you long-term immunity.

Q: Off that last question, does that mean that this vaccine will give me life-long immunity? Or will I need to get it every year like the flu shot?
A: We do not know yet, and it is something that will be studied as this vaccine is distributed. There is a possibility that you may need an annual shot like the flu, or that it could last longer, we just do not have data yet to determine which way it may go. Either remain possible.

Q: Aren’t I just being a guinea pig if I agree to get the vaccine?
A: No, you are not. If you wanted to be a guinea pig, then you should sign up for the phase 3 trials. At this point, both the Pfizer and Moderna vaccines have been administered to tens of thousands of patients with no serious adverse events reported. They are no longer trialing it, it is now being distributed widely for use, like any other medication.

Q: I heard there could be concerns with fertility if I get the mRNA vaccine, is that true?
A: While nobody can guarantee with 100% certainty that there may be potential issues in the future, this does not seem likely. This concern arose due to a peptide that is found in the spike protein of the coronavirus that is like a peptide found on a protein that is important in the development of the placenta. Amino acids, which are the building blocks to form proteins, can also
form smaller molecules called peptides. A few amino acids form this particular peptide; for comparison, the proteins we are discussing here are both over 500 amino acids in size. The theoretical concern is that if you are developing antibodies to this spike protein, that you also could develop antibodies to this placental protein, hence causing fertility issues.

This is highly unlikely for a couple of reasons. First, the body usually does not create antibodies to such a small segment of amino acids, it is not an efficient nor feasible mechanism. An example of why we know that is due to insulin. Some diabetics need to inject themselves with insulin, which is based on human insulin; before we had access to human insulin, they were using other animals’ insulin as the base for the medication. There are some similarities between animal insulin and human insulin, and some differences (which includes the peptides); the body tolerated the insulin without major issues. The other reason is based on current clinical evaluation. Pregnant women have unfortunately been exposed to and been infected by COVID-19. The data that has been reported in these patients do show issues with the mothers but has not shown any effect on fertility or the placenta. Given that the spike protein mRNA being given in the vaccine is the spike protein in the actual virus, one would expect to see similar reactions when the body is responding to the virus. No fertility issues have been reported so far in that patient population.

Q: Does it matter which vaccine I get? Can I choose?

A: In the beginning, you may not have much of a choice, depending what is available and what your state received. As more vaccines come on the market, and if we do have to get it annually, then you will likely have more options to choose. Now, it does not seem to make a difference as to which one you get, although time may show a preference for one group with one of the vaccines, but that has not been determined at this time.

Q: I have heard that the Pfizer vaccine needs to be in super-cold storage, how is that going to work?

A: Pfizer states that they have designed a model for massive distribution of the vaccine built on what they call a “flexible just in time system” to get the vaccine where it needs to be for use. They are each packed in a container with dry ice and have a reusable GPS-enabled temperature monitoring device to allow for
continuous monitoring and tracking to ensure that the temperature remains constant.

Q: **So, the Pfizer vaccine is stored in very cold temperatures, does that mean it has to be used as soon as it is delivered?**

A: If kept in the original thermal shipper from Pfizer, and the dry ice is replenished, the vaccine can remain in that shipper for 30 days. The dry ice would need to be replenished within 24 hours of receipt of the vaccine, and the shipper can maintain the temperature for 5 days if the container is only opened no more than 2 times per day. But this is also based on the ability to get your hands on the dry ice.

If the vaccine is moved into an ultra-low temperature freezer, it could be stored for up to 6 months, but the transfer from shipper to freezer needs to happen in under 10 minutes to prevent thawing. If you move the vaccines to a regular refrigerator, it can be stored there for up to 5 days in its undiluted form.

Q: **Does thawing early matter? How soon will they inject me once the Pfizer vaccine is thawed?**

A: Yes, if you thaw it, then the clock starts on how long you must use it. You cannot refreeze it after you have thawed the vaccine. Depending on where the vaccine is kept during the thawing process will affect how long until it is ready to be diluted and injected. If it is stored in the refrigerator, you need to wait up to 3 hours to use it, if it is at room temperature, then 30 minutes.

Q: **The Pfizer vaccine needs to be diluted? What does that mean for me?**

A: Every Pfizer vial comes with 5 doses of the vaccine in it, it is mixed with a dilutant, and a specific amount is injected into each person. Once the vaccine is diluted, it must be used within 6 hours. The dilutant is normal saline (0.9% NaCl), which is a mixture of salt and water.

Q: **The news recently reported that they found an efficacy rate of over 80% with just the first dose of the Pfizer vaccine, do I really
**need the second dose?**

A: Yes, you do. While that is encouraging that there was that response from the first dose, we cannot use that data to state that one dose will provide you protection. The study was designed to give the second dose three weeks later, which all subjects got, so you cannot know long-term effects of a single dose because that was not investigated.

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**Q: What are the differences between the Pfizer and Moderna vaccines?**

A: This chart below shows both the similarities and differences between the two vaccines:

<table>
<thead>
<tr>
<th></th>
<th>Pfizer</th>
<th>Moderna</th>
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<tbody>
<tr>
<td>mRNA vaccine</td>
<td>mRNA vaccine</td>
<td>mRNA vaccine</td>
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<tr>
<td>95% effective</td>
<td>94.5% effective</td>
<td></td>
</tr>
<tr>
<td>2 doses given 21 days apart</td>
<td>2 doses given 28 days apart</td>
<td></td>
</tr>
<tr>
<td>Needs to be diluted prior to injection</td>
<td>No dilution required</td>
<td></td>
</tr>
<tr>
<td>Stored at -112 to -76 degrees Fahrenheit</td>
<td>Stored at -13 to -5 degrees Fahrenheit</td>
<td></td>
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<tr>
<td>Approved for use in people over the age of 16 years</td>
<td>Approved for use in people over the age of 18 years</td>
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</tbody>
</table>

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**Q: What is in the vaccine?**

A: The companies have been very transparent about what is in their vaccines, and this information is readily available on the FDA websites for each vaccine. To summarize them (taken directly from FDA Fact Sheets):

**Pfizer:**
- mRNA for Spike glycoprotein of the SARS-CoV-2 virus
- Lipids
- (4-hydroxybutyl)azanediyl)bis(hexane-6,1-diyl)bis(2-hexyldecanoate)
- 2[(polyethylene glycol)-2000]-N,N-ditetradecylacetamide
- 1,2-distearoyl-sn-glycero-3-phosphocholine
- Cholesterol
  - Potassium chloride
  - Monobasic potassium phosphate
  - Sodium chloride
  - Dibasic sodium phosphate dehydrate
  - Sucrose

**Moderna:**
- mRNA for Spike glycoprotein of the SARS-CoV-2 virus
- Lipids
  - SM-102
  - Polyethylene glycol [PEG] 2000 dimyristoyl glycerol [DMG]
  - Cholesterol
  - 1,2-distearoyl-sn-glycero-3-phosphocholine [DSPC]
- Tromethamine (prevents acid problems in the blood)
- Tromethamine hydrochloride
- Acetic acid
- Sodium acetate
- Sucrose

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**Q:** **Will I have to pay to receive the vaccine?**

**A:** All health plans that include coverage for vaccines must cover the costs of the vaccine and the administration of it with **no cost-share** for its members. If an
individual is uninsured or is part of a plan that does not include vaccine coverage, there may be a small administrative fee.

Q: **Any other information about the other vaccines?**

A: The AstraZeneca vaccine uses a simian adenovirus as its delivery method for the spike protein. It is a two-dose vaccine, with a 28-day gap in between injections. It is stored in around 8 degrees Celsius, meaning it can be stored in a refrigerator. The AstraZeneca vaccine has been approved for use in the United Kingdom; AstraZeneca is waiting for the results from a larger, United States-based trial, prior to submitting their application to the FDA.

The Johnson & Johnson vaccine may be a single-dose vaccine, but they are also investigating to see if it is more effective in a two-dose regimen. The preliminary results from their Phase 3 trial is expected January, 2021 with an anticipated target due for FDA emergency use application set for February, 2021.

Q: **When can I get a vaccine?**

A: Every state has a plan for distribution and administration of the vaccine based on a tiered system and based on the amount of vaccine they receive at a time. Currently, high priority groups, like front-line health care workers, will likely get it first. As the companies produce more vaccine, they will be more widely distributed. It is likely that by Spring and Summer of 2021 most of the public will be able to get the vaccine if they want to. Pfizer had previously entered into a supply agreement with the United States government for 100 million doses, with an option for an additional 500 million doses, subject to regulatory approval. The US also has purchased 100 million doses from Moderna. Since both of those vaccines require two doses, that is enough for 100 million people to start with. In total, the US government purchased 800 million doses from six manufacturers.

The NY Times has an interactive tool to see where you fall in line in getting a vaccine. [https://www.nytimes.com/interactive/2020/12/03/opinion/covid-19-vaccine-timeline.html](https://www.nytimes.com/interactive/2020/12/03/opinion/covid-19-vaccine-timeline.html)

Q: **I heard there are recommendations on who gets the vaccine**
**first, how is that going to work?**

A: The CDC has a group, the Advisory Committee on Immunization Practices (ACIP) that developed guidelines for states and counties to use for vaccine distribution.

For more detailed information, visit these sites:

1. [https://www.cdc.gov/mmwr/volumes/69/wr/mm695152e2.htm?s_cid=mm695152e2_w](https://www.cdc.gov/mmwr/volumes/69/wr/mm695152e2.htm?s_cid=mm695152e2_w)
2. [https://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/covid-19/evidence-table.html](https://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/covid-19/evidence-table.html)
3. [https://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/covid-19/evidence-table-phase-1b-1c.html](https://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/covid-19/evidence-table-phase-1b-1c.html)

<table>
<thead>
<tr>
<th>Phase of Distribution</th>
<th>Eligible Group</th>
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<tbody>
<tr>
<td>Phase 1A</td>
<td>Healthcare personnel (HCP)</td>
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<tr>
<td></td>
<td>Long-term care facility (LTCF) residents</td>
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<tr>
<td>Phase 1B</td>
<td>Frontline essential workers:</td>
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<tr>
<td></td>
<td>• First responders (e.g., firefighters &amp; police officers)</td>
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<td></td>
<td>• Corrections officers</td>
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<tr>
<td></td>
<td>• Food &amp; agricultural workers</td>
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<td></td>
<td>• U.S. Postal Service workers</td>
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<td></td>
<td>• Manufacturing workers</td>
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<tr>
<td></td>
<td>• Grocery store workers</td>
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<td></td>
<td>• Public transit workers</td>
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<tr>
<td></td>
<td>• Those who work in the education sector (teachers &amp; support staff members), childcare workers</td>
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<tr>
<td></td>
<td>Persons aged ≥ 75 years</td>
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<tr>
<td>Phase 1C</td>
<td>All other essential workers:</td>
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<tr>
<td></td>
<td>• Workers in transportation &amp; logistics</td>
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<tr>
<td></td>
<td>• Water &amp; wastewater</td>
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<td></td>
<td>• Food service</td>
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<tr>
<td></td>
<td>• Shelter &amp; housing (e.g., construction)</td>
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<tr>
<td></td>
<td>• Finance (e.g., bank tellers)</td>
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<tr>
<td>Phase 2</td>
<td></td>
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<td>------------------------------------------------------------------------</td>
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<tr>
<td>Persons aged 65-74 years</td>
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<tr>
<td>Persons aged 16-64 years with medical conditions that increase the risk for severe COVID-19</td>
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<tr>
<td>All other persons aged ≥ 16 years not already recommended for vaccination in Phases 1A, 1B, or 1C</td>
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</tbody>
</table>

Source – CDC Advisory Committee on Immunization Practices

*Note that the age cut-off for Pfizer is 16 years of age, for Moderna it is 18 years of age


Q: **What is the deal with these new variant strains I am hearing about?**

A: New variants of COVID-19 have been reported in both the United Kingdom and South Africa, with most of the coverage going to this new variant found in the UK. The UK variant, called “B.1.1.7” or “SARS-CoV-2 VOC 202012/01” (first variant of concern from 2020, December), contains a series of mutations that has the potential to be more rapidly transmissible than other current strains of COVID-19. Currently there is no evidence that this variant causes any increase in severity or increases risk of death.

Specifically, there is a mutation in the receptor binding protein of the spike protein at specific position 501, where one amino acid was swapped for another. The change on the spike protein may allow the virus to bind more tightly to cell receptors, but it is unknown if a tighter bind translates into significant differences. They are still researching this to understand it better.

One thing to realize is that the COVID-19 virus mutates regularly. Many of
these mutations have no impact on the overall function of the virus, others do. Some mutations emerge and then disappear, others persist. Remember, the goal of the virus is to infect and replicate as efficiently as possible, so these mutations are a way for the virus to try and find better way to infect their host, in this case, human beings.

Mutations can be classified as synonymous (change in the code still leads to the same amino acid), non-synonymous (leads to a change in the amino acid) and deletions (removing that piece of code). The VOC 202012/01 has more than just the spike protein mutation, it contains the following: 14 non-synonymous mutations, 6 synonymous mutations and 3 deletions.

On December 18, 2020, the South African government announced their findings of a new variant, one that also has the same mutation in the spike protein found in the UK variant, along with other separate mutations. This has emerged independently of the UK variant and has no relation to it.

These variants have not been identified in the United States at this time but given that only a small fraction of US infections have been sequenced, it is possible that these variants are already here and just have not been detected yet.

Q: **So, what are the implications of these new variants?**

A: **Potential** consequences of these mutations include:

- Spread more quickly between humans.
- Causing either milder or more severe disease. There is no evidence that VOC 202012/01 produces a more severe illness than other variants.
- Ability to evade detection by specific diagnostic tests. It is unlikely to evade current PCR testing since this test uses multiple targets to detect the virus.
- Decreased response to treatments like monoclonal antibodies.
- Resistance to COVID-19 vaccines. The current FDA-approved vaccines are “polyclonal,” meaning that they are producing antibodies that target several parts of the spike protein. The virus would need to have multiple mutations in the spike protein to evade immunity. There is no evidence that this has occurred.
Q: **What do I do if I get symptoms after getting the second dose? How do I know if it is COVID or the vaccine?**

A: Given that the second dose is a booster shot compared to the first dose, it is more common to have symptoms after the second dose of the vaccine. These are the things to remember:

- It can be difficult to separate out vaccine side effects from an acute infection of COVID-19 since both can produce symptoms like fever, chills, fatigue, headache, myalgia, and arthralgia.

- About 55-83% of people develop at least one systemic symptom following vaccination.

- Most of the post-vaccine signs and symptoms are mild to moderate in intensity, occurs within the first three days after vaccination, with the most occurring the day after vaccination, resolving within 1-2 days of onset, and are more frequent and severe following the second dose and among younger patients (> 55 years of age).

- Cough, shortness of breath, runny nose, sore throat, or loss of taste or smell are NOT consistent with post-vaccination symptoms and may be symptoms of COVID-19. If any of these occur after vaccination, you should be evaluated for COVID-19.

- If symptoms last longer than is usual for the vaccine, speak to your physician because another cause should be looked for.

- The CDC has a webpage for post-vaccination considerations:

Q: **Can I still get infected with COVID-19 after getting the vaccine?**
A: Yes, you can. There have been some reported cases of people getting their first dose of the vaccine, then testing positive for the virus a week or so later. There are a few reasons why this is the case:

- Immunity does not kick in right away. It takes time to build up your immune system, meaning you are still vulnerable during that time. The 95% efficacy rate being attributed to the vaccines was with built-in waiting times, starting at 14 days after the second dose of the Moderna vaccine, and starting 7 days after the second dose of the Pfizer vaccine.

- Vaccines may not provide “perfect” protection. 95% efficacy means that there are still 5% are still at risk, even after both doses.

- It is not because you got the virus from the vaccine. These vaccines do NOT contain the virus, they only contain the mRNA for a spike protein on the virus. This vaccine cannot make you sick with COVID-19.