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Integrity - Service - Excellence

The COVID-19 Vaccine

PFIZER AND MODERNA PRODUCT



INTRODUCTION

Topics of **Discussion**

1. What is the COVID-19 virus?
2. What is the COVID-19 vaccine being produced by Pfizer and Moderna?
3. How does this vaccine work?
4. What are some myths about the vaccine?
5. Safety of the vaccine and how it was proven
6. Possible vaccine side effects
7. New variants of COVID-19 and the vaccine

Briefing **Objective**

Improve vaccine **literacy** to
increase vaccine **uptake**
among our members,
reducing the impact of
COVID-19 on our total force



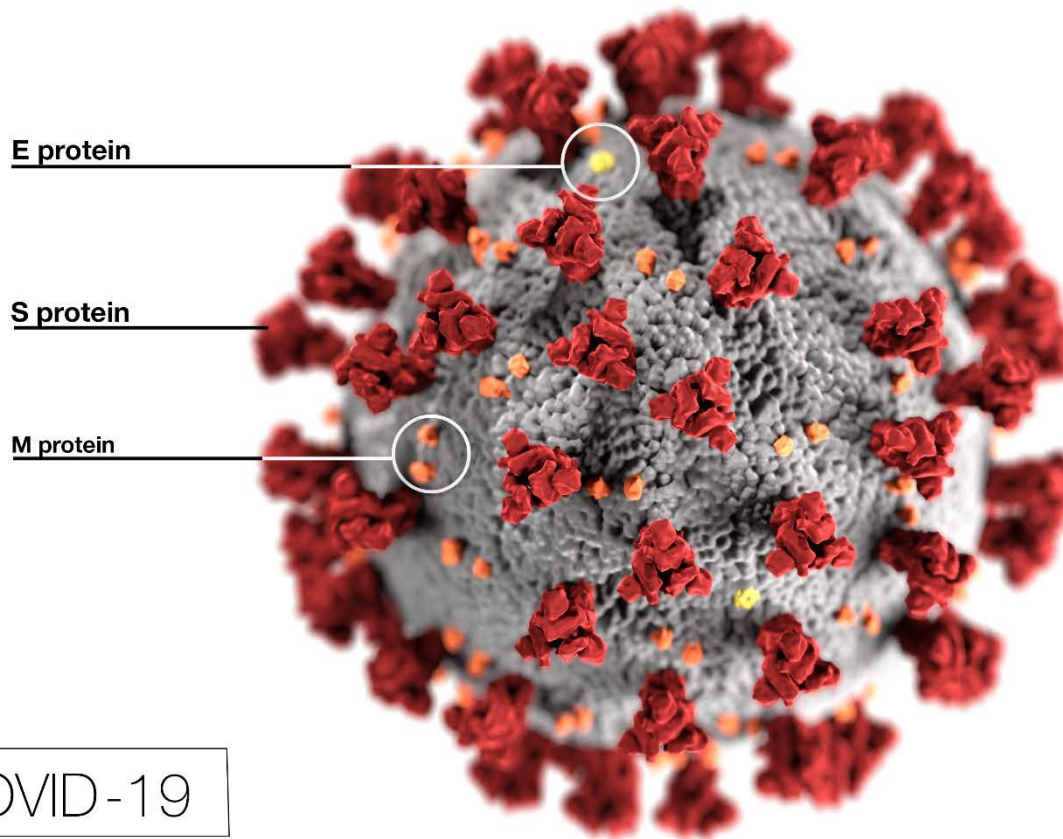
UNDERSTANDING THE VIRUS

What is COVID-19?

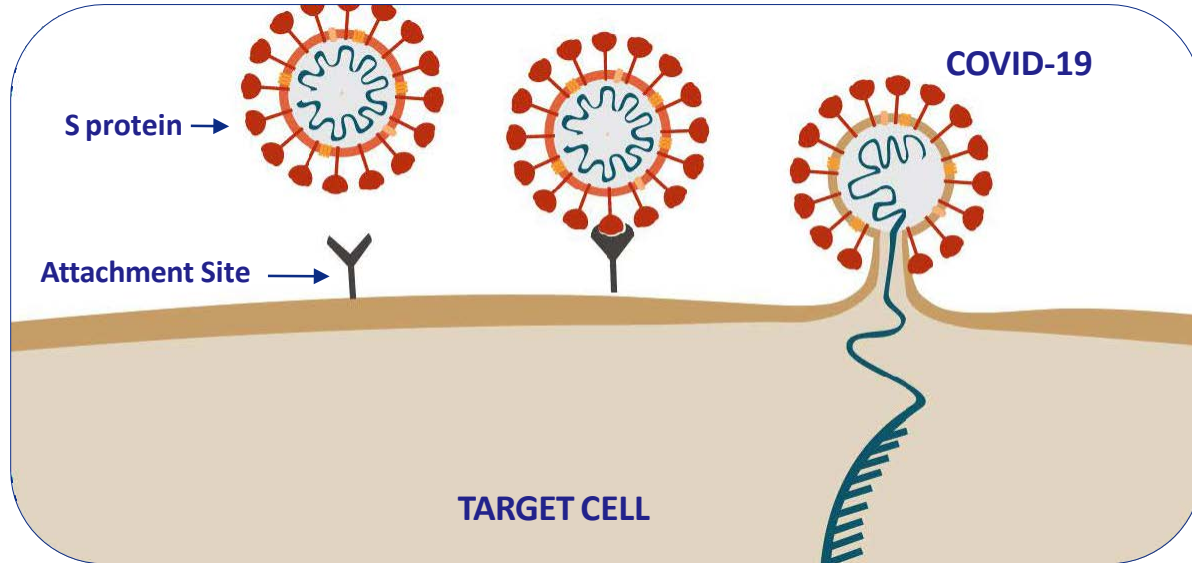
SARS-CoV-2, also known as COVID-19, is a new **respiratory virus** in humans that can be spread from person-to-person through respiratory droplets.

After 2-5 days, the infected person presents with symptoms such as loss of smell, taste, dry cough, fever, and body aches.

The diagram to the right displays a COVID-19 particle and labels the **(E)**nvelope, **(M)**embrane, and **(S)**pike **proteins**.



Proteins are essential molecules found in nature and all living things



What happens when COVID-19 enters the body?

- COVID-19 uses its **spike proteins** to bond to cells in your body which have an attachment site allowing it to enter the cell.
- COVID-19 then takes over the cellular mechanisms to make copies of itself.
- COVID-19 destroys your cells by either:
 - Depleting the cell's resources
 - Rupturing the cell's membrane
- Eventually, cells from your **immune system** kill and clear infected cells

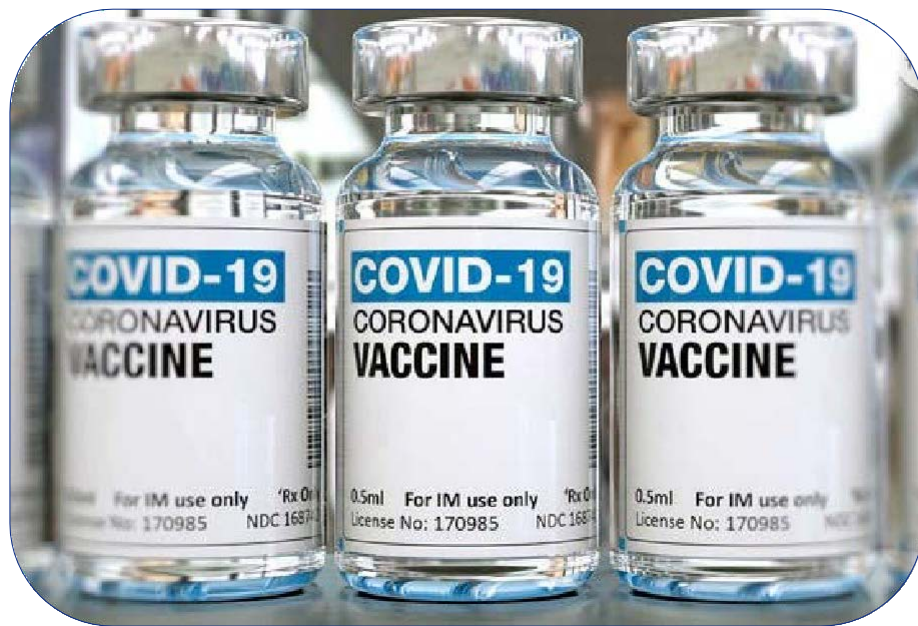
COVID-19 finds a welcome home in the lining of the nose where your cells are rich in attachment sites. If your immune system doesn't beat back COVID-19 during this initial phase, the virus moves to attack the lungs, where it can turn deadly.



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STOPPING THE VIRUS

The COVID-19 Vaccine



THE PROCESS OF IMMUNITY

After being infected by a virus, the body's **immune response** works to produce **antibodies**. An **antibody** is a special protein that **neutralizes the virus** by sticking to it to prevent it from entering your cells. For COVID-19, your body produces **antibodies that attach to the spike protein** to **prevent it from entering your cells** through their attachment sites.

INTRODUCING mRNA VACCINES

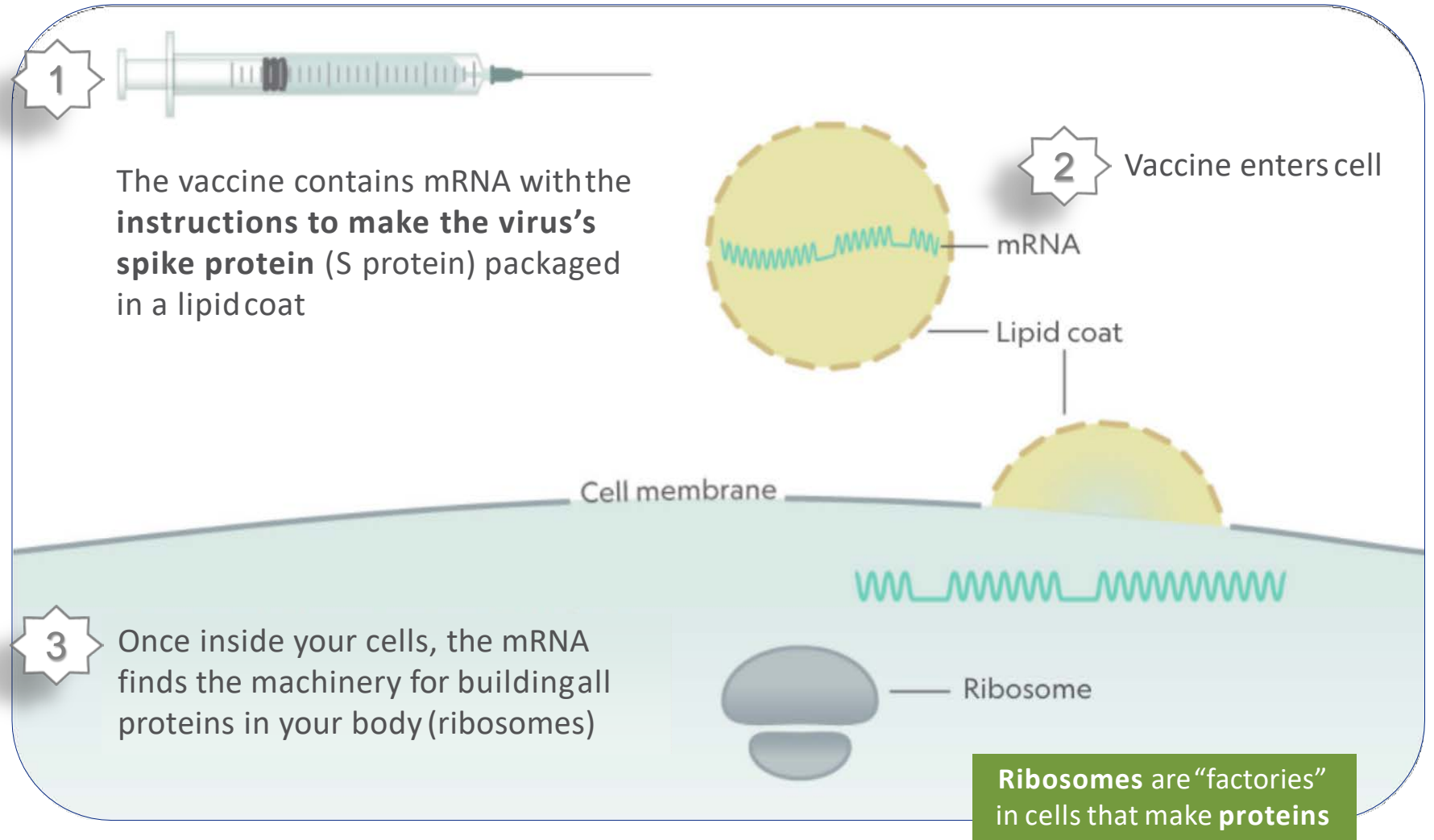
mRNA vaccines have been in development for the last **20 years** and represent the newest innovation in vaccine technology. mRNA is a molecule that carries the genetic code needed to produce a single protein. These vaccines for COVID-19 use mRNA that contains the instructions to **allow your body's own cells to make the virus's spike protein**. When injected, it triggers a **process in your body to create antibodies against the spike protein** of the COVID-19 virus. This process also creates special memory type immune cells that will recognize the virus and create these same antibodies if the body encounters the virus in the future. **This is how the vaccine boosts your body's natural immune system**. mRNA vaccines are currently being used and tested for MERS, Multiple Sclerosis, and other diseases.

See the diagrams on the next two slides for further details →

Fly, Fight and Win...



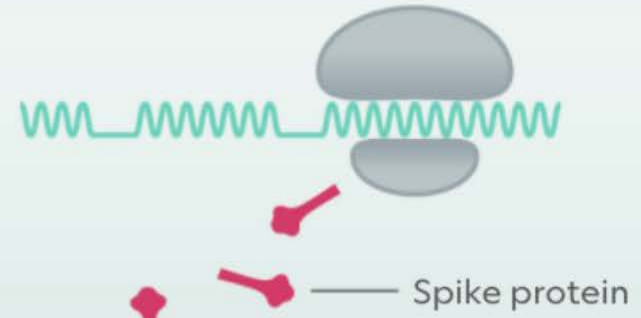
What does the mRNA vaccine do inside your body?



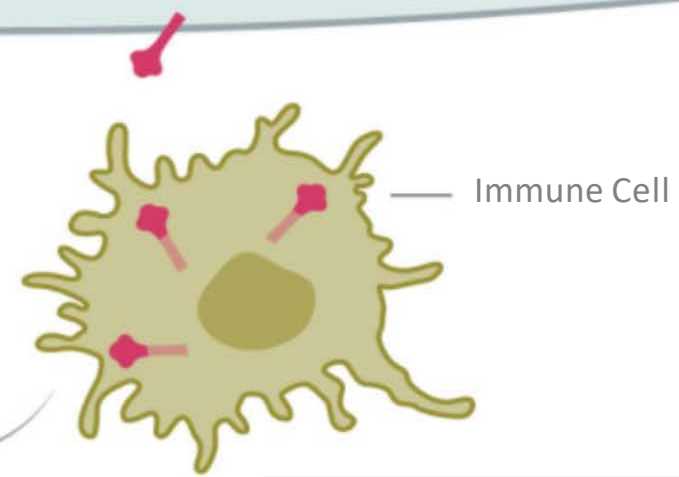


How does the mRNA vaccine trigger immunity for your body?

4 The ribosome will **make the spike protein** found on the COVID-19 virus. These spike proteins coat the surface of the virus and are **harmless** on their own.



5 An immune cell perceives the spike proteins as if the body had been infected. It kicks off a sequence of events that results in the creation of antibodies and other defenses.



These spike proteins will then **trigger immune cells** to produce **antibodies** specific to the virus's spike protein. These **antibodies** will build your body's immune defenses against COVID-19.



Antibody: a protein used by the immune system to detect and neutralize viruses



COVID-19 Vaccine Mythbusters



DOES THE VACCINE CONTAIN THE VIRUS?

No, it does not contain the COVID-19 virus in any form.

CAN I TAKE THE VACCINE IF PREGNANT?

Women who are pregnant/breastfeeding can get the vaccine. Consult with your medical provider.

DOES THE VACCINE CAUSE AUTISM?

There is no scientific evidence that any vaccine causes autism of any form.

CAN I TAKE ONLY ONE DOES OF THE VACCINE?

Two doses of the vaccines:
21 days apart – Pfizer
28 days apart - Moderna
must be taken to reach full efficacy and immunity.

IS THE VACCINE SAFE?

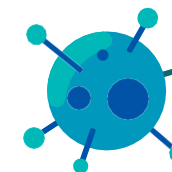
The COVID-19 clinical trials of vaccines must show they are safe and effective before they are authorized for use. It is safe.

DOES THE VACCINE CAUSE BELLS PALSY?

There is no correlation between the vaccine and Bells Palsy. The disease rate is the same between vaccinated and unvaccinated populations.

THE VACCINE DOES NOT CONTAIN:

pork, tracer technology, microchips, luciferase, fetal tissue, stem cells, aluminum, mercury , or labeled with the Mark of the Beast





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Clinical Trials: Who Got Tested?

Over **70,000 people** total participated in the Pfizer and Moderna COVID-19 vaccine clinical trials across various **diverse demographics** as follows:

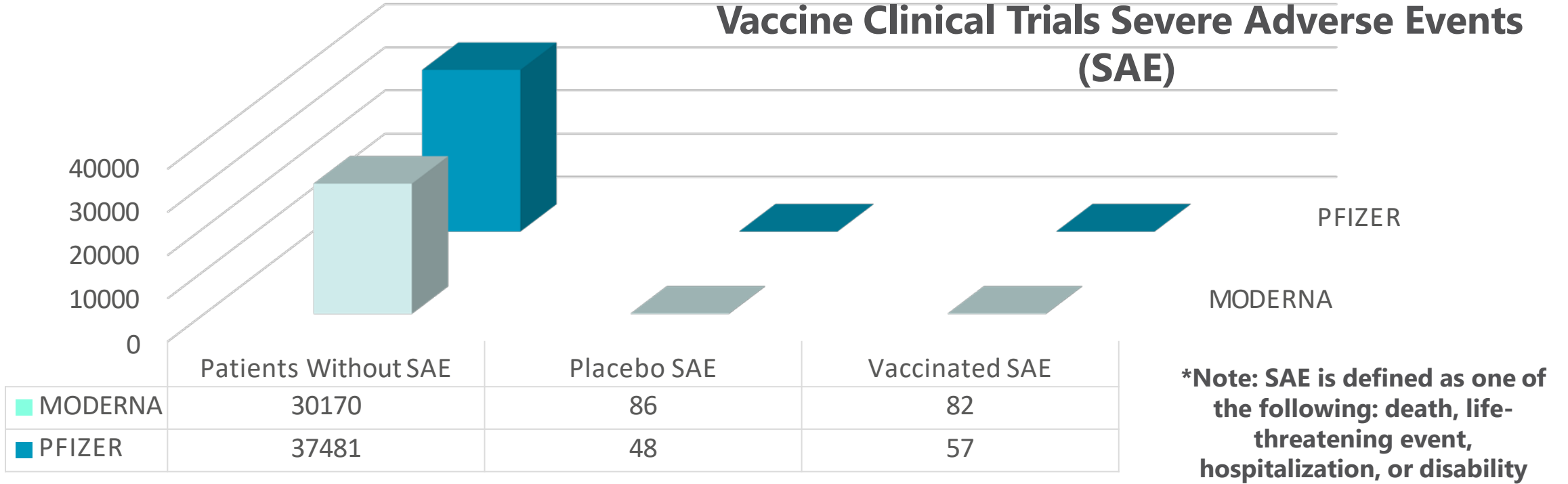


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Clinical Trials: Patient Safety

Vaccine Clinical Trials Severe Adverse Events (SAE)



Conclusion: Safety is similar for those who received the vaccine and those who did not (placebo).



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Potential Side Effects

Side effects tend to occur within **1-2 days** after each dose and **only last a day**.



ON YOUR ARM

- Redness
- Swelling
- Pain

ON YOUR BODY

- Chills
- Body Aches
- Lack of Energy



These side effects indicate that your body is actively going through the process of **building immunity**.

Allergic reaction is possible but rare. You may be asked to wait 30 minutes after your dose for monitoring.

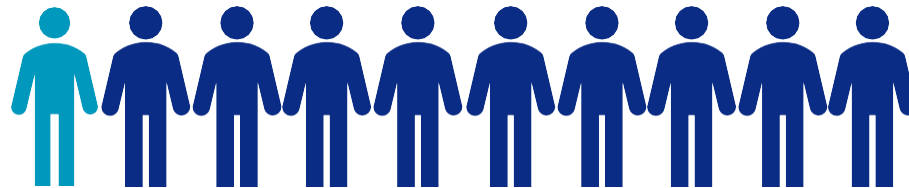
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Potential Side Effects

Most of the side effect symptoms are mild to moderate

This means they were noticeable but did not affect a person's daily activities.



For both vaccines, about 9% of people experience side effects that do affect their daily activities.

Most of these occur after the second dose and only require bed rest for about a day.



GETTING THE VACCINE

Benefits versus Risk

BENEFITS

Prevents the spread of COVID-19 and protects those around you including your family and friends

If enough people are vaccinated, we can **end the pandemic** sooner

In the rare chance a vaccinated person contracts the disease, the **disease symptoms are very mild** and not life threatening even among high-risk patients

Eases the burden on frontline workers and allows for better care in a hospital setting

Your immunity coming from the vaccine is greater than any benefits of natural immunity if you get COVID-19



RISKS & UNKNOWNNS

It is unknown how long this immunity lasts; this is being studied by the CDC and others

For the small percentage of patients that could contract the virus after vaccination, there is not enough evidence yet to know whether that person can still spread COVID-19 to the people they encounter

Long-term effects of the vaccine are unknown, but the effects are being closely monitored and tracked by the CDC

Benefits outweigh risks



What about **new variants** of COVID-19?

- Many viruses mutate over time, causing new variants to emerge, including COVID-19.
- However, there is currently **no evidence** that these variants cause severe illness or increased risk of death.
- None of these variants affect the spike protein structure right now, thus in theory, **vaccine should provide immunity against the new variants.**
- CDC and other public health agencies are closely monitoring the situation and guidelines are being updated accordingly if the situation changes.

"World map shows where mutant Covid strains are spreading," Metro, Dec. 29, 2020. <https://metro.co.uk/2020/12/29/world-map-shows-where-mutant-covid-strains-are-spreading-13820679/> (accessed Jan. 13, 2021).



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