

# PFIZER VS. MODERNA COVID-19 VACCINE

## WHAT'S THE DIFFERENCE?



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# BOTH ARE MRNA VACCINES

COVID-19 mRNA vaccines provide instructions for our cells to make a harmless piece of what is called the “spike protein.” The spike protein is found on the surface of the virus that causes COVID-19.

COVID-19 mRNA vaccines are given in the upper arm muscle. Once the instructions (mRNA) are inside the muscle cells, the cells follow the instructions and make the protein piece. **After the protein piece is made, the cell breaks down the instructions and gets rid of them.**

**Next, the cell displays the protein piece on its surface (showing off its work).** Our immune system recognizes that the protein doesn't belong there and begins making antibodies.

After **developing antibodies**, our immune system has learned how to protect against future infection.

**The benefit of mRNA vaccines, like all vaccines, is those vaccinated gain this protection without ever having to risk the serious consequences of getting sick with COVID-19.**

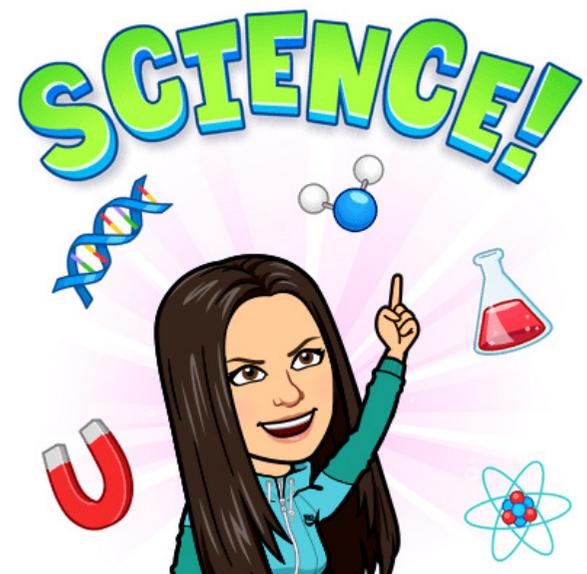
## Facts about COVID-19 mRNA Vaccines

**They cannot give someone COVID-19.**

- mRNA vaccines do not use the live virus that causes COVID-19.

**They do not affect or interact with our DNA in any way.**

- mRNA never enters the nucleus of the cell, which is where our DNA (genetic material) is kept.
- The cell breaks down and gets rid of the mRNA soon after it is finished using the instructions.



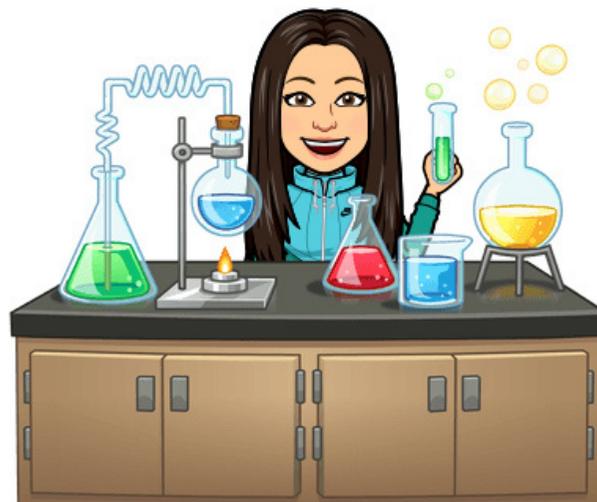
# MRNA TECHNOLOGY

mRNA technology was discovered over 30 years ago and has been studied for vaccine purposes for nearly two decades.

**In fact, scientists have been working on a coronavirus vaccine since the SARS and MERS outbreaks but funding dried up. No funding, no scientific advancements. (Look at what we can accomplish when we fund science!)**

Early-stage clinical trials using mRNA vaccines have been carried out for influenza, Zika, rabies, and cytomegalovirus (CMV).

Recent technological advancements in RNA biology and chemistry, as well as delivery systems, have mitigated these challenges and improved their stability, safety, and effectiveness.



# PFIZER VS. MODERNA VACCINE

*Pfizer*

95% effective

30 mcg doses given 21 days  
apart

5 dose vials

Must be diluted with 0.9%  
sodium chloride

Stored at -112 to -76 degrees  
Fahrenheit

36,621 trial participants

Approved for use in people  
over the age of 16

Published safety and final  
efficacy results from Phase 3  
on December 10th, 2020

*Moderna*

94.5% effective

100 mcg doses given 28 days  
apart

10 dose vials

No dilution required

Stored at -13 to -5 degrees  
Fahrenheit

30,350 trial participants

Approved for use in people over  
the age of 18.

Announced primary efficacy  
analysis in Phase 3 on  
November 30, 2020

# INGREDIENTS IN THE VACCINE

**There has been complete transparency around ingredients. You can find the fact sheet posted online and in the reference section of this post.**

mRNA

Lipids (including ((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, and cholesterol)

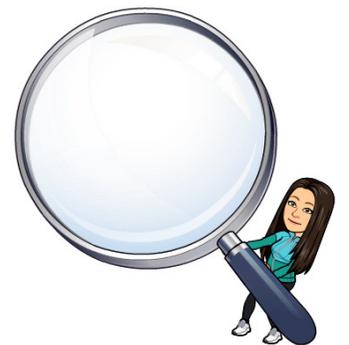
Potassium chloride

Monobasic potassium phosphate

Sodium chloride

Dibasic sodium phosphate dehydrate

Sucrose



**Good news for those that may have concerns or are vaccine-hesitant. There is no aluminum, mercury, or food allergens.**

# SIDE EFFECTS/IMMUNE RESPONSE

Most commonly reported side effects:

Injection site reaction

Fatigue

Headache

Muscle pain

Chills

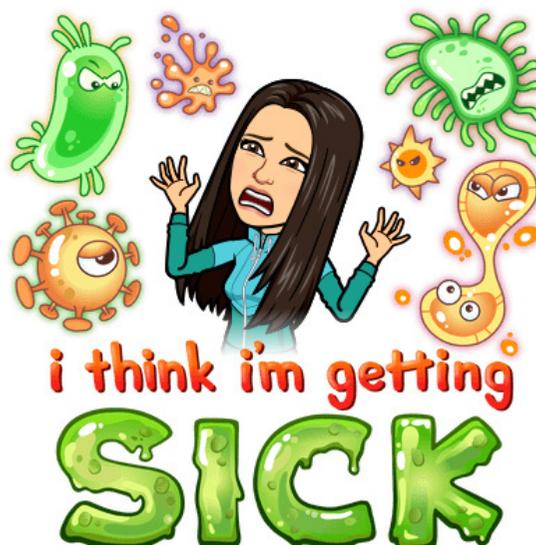
Joint pain

Fever

This is called an "immune response."

**This is response without infection and it's a good thing!**

These short-term, easily managed side effects are significantly less risky than taking your chances with COVID-19 infection.



# 99% SURVIVAL RATE

A commonly asked question is "why should I get vaccinated if the COVID-19 infection has a 99% survival rate?"

**Surviving and thriving are incredibly different.**

COVID-19 symptoms can persist for months. The virus can damage the lungs, heart, and brain, which increases the risk of long-term health problems. **Even young, otherwise healthy people can feel unwell for weeks to months after infection.**

How organs may be affected by COVID-19:

**Heart:** Imaging tests taken months after recovery from COVID-19 have shown lasting damage to the heart muscle, even in people who experienced only mild COVID-19 symptoms. This may increase the risk of heart failure or other heart complications in the future.

**Lungs:** The type of pneumonia often associated with COVID-19 can cause long-standing damage to the tiny air sacs (alveoli) in the lungs. The resulting scar tissue can lead to long-term breathing problems.

**Brain:** Even in young people, COVID-19 can cause strokes, seizures and Guillain-Barre syndrome — a condition that causes temporary paralysis. COVID-19 may also increase the risk of developing Parkinson's disease and Alzheimer's disease.

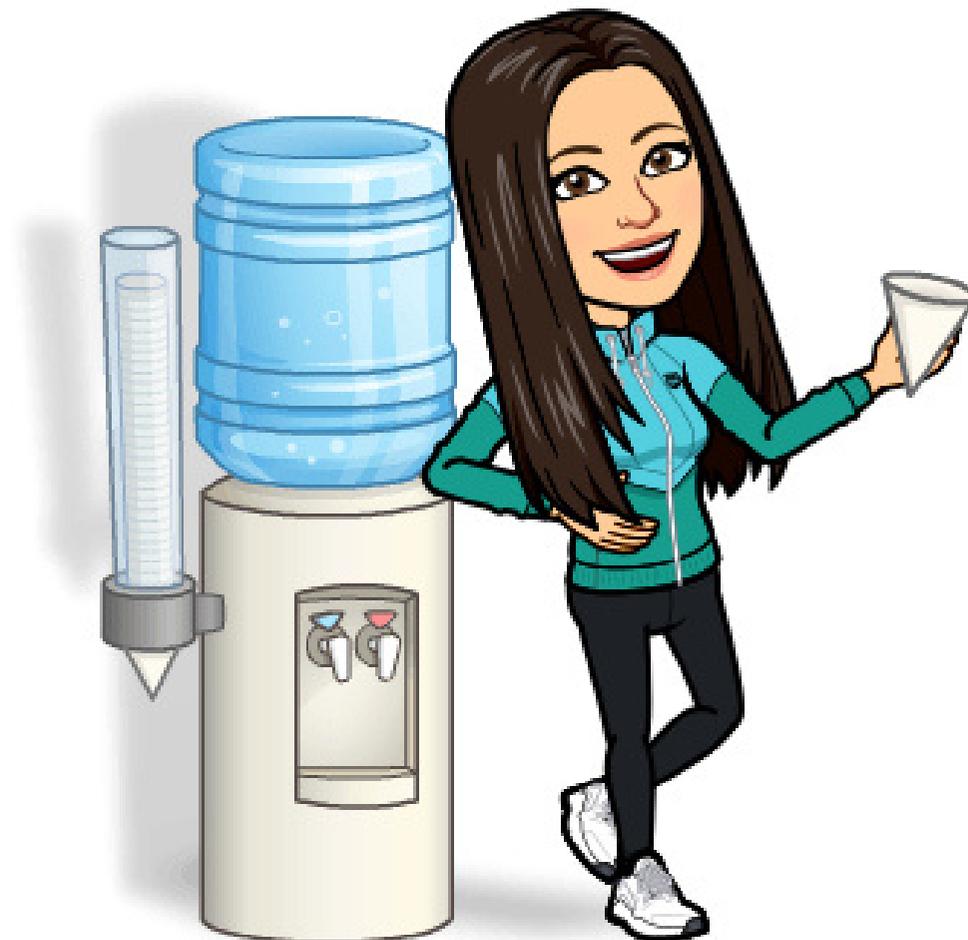
**Short-term side effects and 95% vaccine efficacy > long term health damages from COVID-19 infection**

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# PLEASE GET VACCINATED

The vaccine benefits outweigh the known risks of contracting COVID-19.

When the vaccine reaches your group, please get the vaccine. The sooner we vaccinate and establish herd immunity the sooner we can remove our masks and hug our friends again.



- Your friendly public health professional

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# REFERENCES

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