



Potential side-effects of the vaccines: injection site pain, fatigue, headache, muscle pain, and joint pain, fever.

“These side effects are a sign of an immune system kicking into gear. They do not signal that the vaccine is unsafe.”

<https://www.statnews.com/2021/02/02/comparing-the-covid-19-vaccines-developed-by-pfizer-moderna-and-johnson-johnson/>



How The COVID-19 Vaccines Work in Your Cells



mRNA (messenger cells)



mRNA (messenger cells)



viral vectored vaccine



Facts About COVID-19 mRNA Vaccines

- ✓ The vaccine cannot give someone COVID-19. mRNA vaccines do not use the live virus that causes COVID-19.

The vaccines 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.

Advantages and Disadvantages of Viral Vector-Based Vaccines

1

Well-established technology

2

Strong immune response

3

Immune response involves B cells and T cells

4

Previous exposure to the vector could reduce effectiveness

5

Relatively complex to manufacture

Source: <https://bit.ly/3c97kEu>

Advantages of mRNA Vaccines for Protection Against COVID-19

1

mRNA vaccines use non-infectious element.

2

Have shorter manufacturing times.

3

Can target multiple diseases.

4

mRNA vaccines are developed in a laboratory using a DNA template and readily available materials.

5

Administration process can be standardized.

6

DNA and RNA vaccines typically can be moved most rapidly into the clinic for initial testing.

Source: <https://bit.ly/38dhZNq>

How Effective is the COVID-19 Vaccine?

With so much stress and fear surrounding Covid-19, many Americans don't know if the vaccine is effective at reducing infection rates. Further, many question if one vaccine is a better option than the other.

“The perception stems from the headline rates of effectiveness of the three vaccines: 72 percent for Johnson & Johnson, compared with 94 percent for Moderna and 95 percent for Pfizer. But those headline rates can be misleading in a few ways.

All three vaccines being used in the U.S. are accomplishing that goal. In the research trials, none of the people who received a vaccine died of Covid. And after the vaccines had taken full effect, none were hospitalized, either.” -NYT

Pfizer **95%**

Modern **94%**

Johnson & Johnson **72%**

Source: https://www.cdc.gov/coronavirus/2019-ncov/downloads/vaccines/COVID-19-mRNA-infographic_G_508.pdf

How the Vaccine Travels to Your State



The Federal government allots a weekly vaccine supply for each state



State orders the vaccine.



Vaccines are administered to local providers.



Vaccines ship to providers throughout the state.

Delivery and Storage Requirements for the Vaccine

Vaccine	Storage Requirements	Minimum Order
Pfizer	-94 Fahrenheit	975 Doses
Modern	-4 Fahrenheit	100 Doses
Johnson & Johnson	Normal Refrigeration	Declined to comment

Target Population

+16



Type: mRNA (messenger cells)

Storage requirements: -94 Fahrenheit

Minimum Order: 975 doses

Target population: 16 and older

Efficacy: **95%**

+18



Type: mRNA (messenger cells)

Storage requirements: -4 Fahrenheit

Minimum Order: 100 doses

Target population: 18 and older

Efficacy: **94.1%**

+18



Type: Viral vectored vaccine

Storage requirements: Requires more information

Minimum Order: declined to say

Target population: 18 and older

Efficacy: **72%**

