# -Understanding-Moderna's COVID-19 Vaccine



## Vaccine Type: RNA Vaccine

The RNA vaccine carries an artificial piece of the virus' genetic material (mRNA). The mRNA tells our cells how to build the viral protein. These viral proteins are known as spike proteins, which sit on the surface of the COVID-19 virus. Our immune system produces antibodies to fight the viral protein that our bodies made -which prepares our bodies to fight the real virus later!



RNA vaccines do not contain the virus itself - just the spike protien - so they pose no risk of infection

## Delivery Method: Hypodermic Needle

A hypodermic needle is a thin, hollow tube with a sterile pointed tip.

If you have received a flu vaccine, or had your blood drawn, the provider likely used this kind of needle.



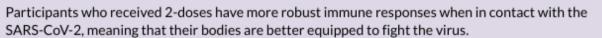
### Storage: -20°C

The vaccine has to be stored at -20 degrees Celsius, which is a standard freezer temperature. This makes the vaccine easily accessible, especially to rural hospitals and pharmacies.



#### Schedule: 2-Dose

A 2-dose schedule is a series of two vaccine injections that boost antibodies that block a virus' ability to attack our bodies. The doses are to be given 4 weeks apart.

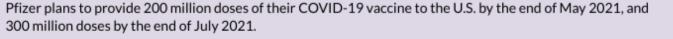




This is similar to other multi-dose vaccines that have been used in the past, for example: DPT, HPV and Hepatitis B.

## Authorized for Emergency Use

As of <u>December 18, 2020</u>, the FDA issued an Emergency Use Authorization for the Moderna COVID-19 vaccine. The vaccine is approved for individuals <u>18 years of age and older</u>.





# -Understanding-Pfizer-BioNTech's COVID-19 Vaccine



## Vaccine Type: RNA Vaccine

The RNA vaccine carries an artificial piece of the virus' genetic material (mRNA). The mRNA tells our cells how to build the viral protein. These viral proteins are known as spike proteins, which sit on the surface of the COVID-19 virus. Our immune system produces antibodies to fight the viral protein that our bodies made -which prepares our bodies to fight the real virus later!



RNA vaccines do not contain the virus itself - just the spike protien - so they pose no risk of infection

## Delivery Method: Hypodermic Needle

A hypodermic needle is a thin, hollow tube with a sterile pointed tip.

If you have received a flu vaccine, or had your blood drawn, the provider likely used this kind of needle.



### Storage: -70°C

The vaccine has to be stored at <u>-70 degrees Celsius</u>. Typical freezers do not reach this temperature, which may make it difficult for certain hospitals and pharmacies to store this vaccine.



#### Schedule: 2-Dose

A 2-dose schedule is a series of two vaccine injections that boost antibodies that block a virus' ability to attack our bodies. The doses are to be given 3 weeks apart.

Participants who received 2-doses have more robust immune responses when in contact with the SARS-CoV-2, meaning that their bodies are better equipped to fight the virus.



This is similar to other multi-dose vaccines that have been used in the past, for example: DPT, HPV and Hepatitis B.

## Authorized for Emergency Use

As of <u>December 11, 2020</u>, the FDA issued an Emergency Use Authorization for the J&J COVID-19 vaccine. The vaccine is approved for individuals <u>16 years of age and older</u>.

Pfizer plans to provide 200 million doses of their COVID-19 vaccine to the U.S. by May 2021, and 2 billion doses globally by the end of 2021



# -Understanding-Johnson & Johnson's COVID-19 Vaccine



## Vaccine Type: Recombinant Vector Vaccine

This vaccine uses the piece of genetic code from SARS-CoV-2 (the virus that causes COVID) that has instructions for a part of the virus called the spike protein.

This code has been added to a different virus that sometimes causes the common cold (called an adenovirus), and that virus has been modified so that it won't make you sick. The adenovirus helps our immune cells recognize the spike protein code and create a type of antidote called an antigen.

Our bodies will flush out the adenovirus but remember how to make the spike protein antigen so that when we get exposed to SARS-CoV-2 we can fight it off without getting sick.

This technology has been used in Ebola vaccines.



## Delivery Method: Hypodermic Needle

A hypodermic needle is a thin , hollow tube with a sterile pointed tip.

If you have received a flu vaccine, or had your blood drawn, the provider likely used this kind of needle.



## Storage: -20°C for 2 yrs or 2-8°C for 3 mos

The vaccine is currently reported to remain stable for 2 years at -20 $^{\circ}$ C (-4 $^{\circ}$ F) and at least 3 months at 2-8 $^{\circ}$ C (25-46 $^{\circ}$ F), which is about the temperature of a home refrigerator. This stability makes it easy to transport and distribute the vaccine.



## Schedule: Single Dose

As of January 2021, J&J vaccine trials included just a single dose. This single dose schedule has shown to be 66% effective at preventing moderate/severe illness and 85% effective in preventing severe COVID-19-related disease, hospitalizations and death 28 days after vaccination.

J&J is also testing whether a second dose of their vaccine given 2 months later might help give people stronger and longer protection from COVID



## Authorized for Emergency Use

As of February 27, 2021, the FDA issued an Emergency Use Authorization for the J&J COVID-19 vaccine. The vaccine is approved for individuals 18 years of age and older.

J&J expects to provide enough doses to fully vaccinate more than 20 million people in the U.S by the end of March and are committed to not-for-profit pricing during the pandemic period to bring affordable vaccines to the public.

