

# How mRNA COVID-19 Vaccines Work

## Understanding the virus that causes COVID-19.

Coronaviruses, like the one that causes COVID-19, are named for the crown-like spikes on their surface, called **spike proteins**. These **spike proteins** are ideal targets for vaccines.

## What is mRNA?

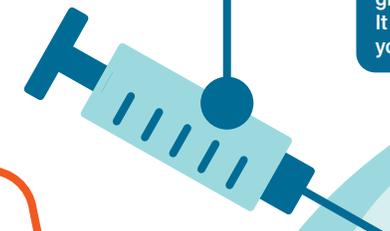
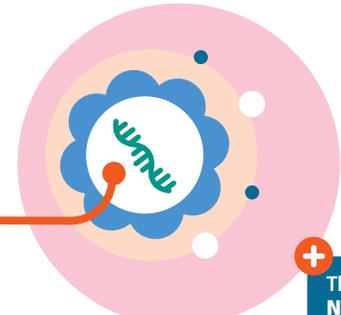
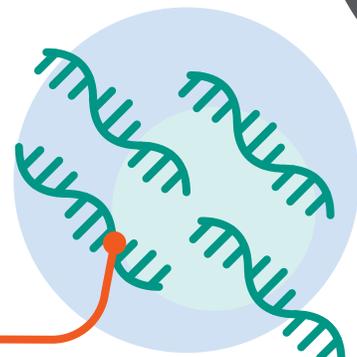
Messenger RNA, or mRNA, is genetic material that tells your body how to make proteins.

## What is in the vaccine?

The vaccine is made of mRNA wrapped in a coating that makes delivery easy and keeps the body from damaging it.

## How does the vaccine work?

The mRNA in the vaccine teaches your cells how to make copies of the **spike protein**. If you are exposed to the real virus later, your body will recognize it and know how to fight it off.



**+** The vaccine **DOES NOT** contain **ANY** virus, so it cannot give you COVID-19. It cannot change your DNA in any way.

**+** When your body responds to the vaccine, it can sometimes cause a mild fever, headache, or chills. This is completely normal and a sign that the vaccine is working.

**+** After the mRNA delivers the instructions, your cells break it down and get rid of it.

Antibody

## GETTING VACCINATED?

For information about COVID-19 vaccine, visit: [cdc.gov/coronavirus/vaccines](https://www.cdc.gov/coronavirus/vaccines)



# How Viral Vector COVID-19 Vaccines Work

## Understanding the virus that causes COVID-19.

Coronaviruses, like the one that causes COVID-19, are named for the crown-like spikes on their surface, called **spike proteins**. These **spike proteins** are ideal targets for vaccines.

## What is a viral vector vaccine?

A viral vector vaccine uses a harmless version of a different virus, called a "vector," to deliver information to the body that helps it protect you.

## How does the vaccine work?

The vaccine teaches your body how to make copies of the **spike proteins**. If you are exposed to the real virus later, your body will recognize it and know how to fight it off.

The vaccine **DOES NOT** contain the virus that causes COVID-19 and cannot give you COVID-19. It also cannot make you sick from the virus that is used as the vector. It cannot change your DNA in any way.

When your body responds to the vaccine, it can sometimes cause tiredness, headache, muscle pain, nausea, or mild fever. These are normal signs the vaccine is working.

## GETTING VACCINATED?

For information about COVID-19 vaccine, visit [cdc.gov/coronavirus/vaccines](https://www.cdc.gov/coronavirus/vaccines)



# Get a COVID-19 vaccine



**It's SAFE!**

**\$0.00**

**It's FREE!**



**It will help PROTECT you and your family!**



**You might get side effects. But you should FEEL BETTER in a few days.**



**Get the FIRST vaccine you can!**



**Keep taking basic prevention steps until you are fully vaccinated.**

Learn more:

[www.cdc.gov/coronavirus/2019-ncov/vaccines/fully-vaccinated.html](https://www.cdc.gov/coronavirus/2019-ncov/vaccines/fully-vaccinated.html)

