

What are the different types of COVID vaccines and how do they work?

There are currently three main types of COVID-19 vaccines that are authorized and recommended for use in the United States or are being studied in large-scale clinical trials in the United States.

Each vaccine prompts a person's body to recognize and protect them from the COVID-19 virus. It's important to remember that none of these vaccines can give a person COVID-19.

Some COVID-19 vaccines require you to get one dose of the vaccine, and some require you to get two doses of the vaccine. If the vaccine that you receive requires you to get two doses, you will need to receive both doses of the vaccine to be fully vaccinated and protected from COVID-19.

Let's go over the three different types of COVID-19 vaccines.

The first type of vaccine we will talk about is an mRNA vaccine. The mRNA vaccine contains material from the COVID-19 virus that gives the body's cells instructions for how to make a harmless protein that is unique to the COVID-19 virus.

After cells make copies of this protein, they destroy the genetic material from the vaccine.

A person's body will recognize that the protein should not be there and will build special white blood cells to fight the virus. These special cells, called T-lymphocytes and B-lymphocytes, will remember how to fight the virus if the person gets COVID-19 in the future.

The second type of vaccine we will talk about is a protein subunit vaccine. This type of vaccine includes harmless pieces (called proteins) of the virus that cause COVID-19 instead of the entire virus.

Once a person receives this type of vaccine, their immune system recognizes that the proteins don't belong in the body and begins making T-lymphocytes and antibodies.

If a person ever gets COVID-19 in the future, memory cells will recognize and fight the virus.

The third type of vaccine we will talk about is a vector vaccine. This type of vaccine contains a modified version of a different virus than the one that causes COVID-19. Inside the shell of the modified virus, there is material from the virus that causes COVID-19. This is called a viral vector.

Once the viral vector is inside the body's cells, the genetic material gives cells instructions to make a protein that is unique to the virus that causes COVID-19.

Using these instructions, the cells make copies of the protein. This prompts the body to build T-lymphocytes and B-lymphocytes that will remember how to fight the COVID-19 virus if a person gets COVID-19 in the future.

Let's review what we just discussed and go over some of the key points:

- There are currently three main types of COVID-19 vaccines that are authorized and recommended for use in the United States or are being studied in large-scale clinical trials in the United States.
- None of these vaccines can give a person COVID-19.
- The three types of vaccines are:
 - mRNA vaccines
 - Protein subunit vaccines
 - Vector vaccines