

How Does a COVID-19 mRNA Vaccine Work?

COVID vaccines are now available.

Some of the COVID-19 vaccines are mRNA vaccines. But what does this mean? mRNA vaccines are different from traditional vaccines. mRNA vaccines don't expose you to any real virus. Instead, they're made with messenger ribonucleic acid, or mRNA.

This is a type of molecule that gives instructions to the cell for how to make different kinds of proteins.

mRNA molecules are a natural part of our cells and how our bodies work.

Researchers have been working with mRNA vaccines for many years. They are made more easily and safely in a lab than a vaccine that uses a virus.

Because of this, they can also be made faster. The COVID-19 mRNA vaccines have passed many tests in labs and in thousands of people and meet strict standards from the FDA.

So how do these vaccines work? First, a COVID-19 mRNA vaccine is injected into a muscle in your upper arm. Some muscle cells take the mRNA instructions in the vaccine and make a harmless piece of a protein called a spike protein.

This protein is found on the outside of the SARS CoV-2 virus that causes COVID-19.

The muscle cells then destroy the instructions for how to make the spike protein. The mRNA never goes into the nucleus of your cells where your DNA is stored.

The newly made spike protein now sits on the surface of the muscle cells. Your immune system senses the spike protein as a foreign threat to destroy. It starts making antibodies to fight anything with that spike protein on it.

This will help your body's immune system recognize and fight the real virus if it ever shows up. It's kind of like recognizing someone by the hat they wear. Your body is then prepared to spot COVID-19 and fight it off before it grows in your body's cells.

Fast Facts to remember about COVID-19 mRNA vaccines: They help get your body ready to fight off the COVID-19 virus before it makes you sick.

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They don't use any live, dead or weak virus. They can't give you COVID-19. They don't affect your DNA.

Want to learn more? Go to [cdc.gov](https://www.cdc.gov) to find more information about mRNA vaccines. You can also learn more about how the vaccines were approved at [fda.gov](https://www.fda.gov).

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