



# The COVID-19 vaccine: Why you shouldn't wait

Moderna

Pfizer-  
BioNTech



# How the vaccines work

When no one or just a few people are vaccinated, the coronavirus spreads easily and makes a lot of people sick. When enough people are vaccinated, it's difficult for the virus to spread and fewer people get sick.

“Herd immunity” is achieved when 70-90% of the population is immune to the virus, either through vaccination or through natural infection. Reaching this threshold helps protect those who can't get vaccinated yet, such as children and people with severe vaccine allergies.

Johnson &  
Johnson/Janssen

**Two of the vaccines currently authorized in the U.S. – Moderna and Pfizer-BioNTech – contain genetic material called messenger RNA (mRNA).** This small piece of the coronavirus's mRNA orders the cells in your body to make copies of the distinctive but harmless spike protein that appears on the surface of the coronavirus. These spike proteins trigger an immune reaction. Your body creates antibodies, which then protect you from getting sick if you're exposed to the real virus later. The Moderna vaccine requires two shots given one month apart, and the Pfizer-BioNTech vaccine requires two shots given three weeks apart.

**The third and most recently authorized vaccine, Janssen Biotech, Inc. (a Johnson & Johnson company), uses viral vector technology to create immunity.**

That means it uses another, harmless virus as the vehicle to introduce the coronavirus's genetic material to your immune system.

The J&J/Janssen vaccine uses a weakened adenovirus (the cause of the common cold). It has genetic material from the coronavirus inserted within it. The adenovirus is too weak to make you sick. But it can still insert the genetic material it carries into cells as a normal virus would. Once inside your cells, that genetic material instructs them to make the coronavirus's spike protein. The cells then display the spike protein on their surface. As with the mRNA vaccines, these proteins trigger an immune reaction and your body creates antibodies. These protect you from getting sick if you get infected with the real virus later. The J&J/Janssen vaccine requires only one shot.

**The Moderna and J&J/Janssen vaccines are recommended for people 18 years and older, while the Pfizer vaccine is recommended for people 16 and older.**

None of the vaccines contain the real coronavirus, so getting vaccinated cannot give you COVID-19.

## SIDE EFFECTS



You may have some side effects from the vaccine, which are normal signs that your body is building protection, and they should go away within a few days.

The most common side effects include:

- Fever
- Fatigue
- Headache
- Muscle pain
- Chills
- Nausea
- Pain, redness or swelling at the injection site

**These reactions were more likely to be reported after people received the second dose of the Moderna and Pfizer-BioNTech vaccines.**

## Effectiveness

Moderna

**94.1%**  
effective

Pfizer-  
BioNTech

**95%**  
effective

Johnson &  
Johnson/  
Janssen

**66.3%**  
effective

In clinical trials, the Moderna vaccine was 94.1% effective in preventing COVID-19; the Pfizer-BioNTech vaccine was 95% effective; and the J&J/Janssen vaccine was 66.3% effective.

**Getting a COVID-19 vaccine may also protect you from getting seriously ill even if you do get COVID-19. While the J&J/Janssen vaccine has a lower efficacy rate, infectious disease experts point out that its results cannot be directly compared to the other two vaccines because it's a single dose and the company's trial was conducted when there were more infections and new, more contagious variants.**



**Unless you have allergies to ingredients in a specific vaccine, the best COVID-19 vaccine is probably the one you can get soonest.**

It is not yet clear how long the vaccine will provide protection or whether it prevents someone from spreading the virus. Therefore, it will be important for those who get the vaccine to follow the most current CDC guidelines, such as wearing a mask and social distancing in certain situations.

Multiple variants of the virus that causes COVID-19 are circulating globally. These variants seem to spread more easily and quickly than other variants, which may lead to more cases of COVID-19. So far, studies suggest that antibodies generated through all three vaccines recognize these variants.

This is being closely investigated.

**The Centers for Disease Control and Prevention (CDC)** is the best place to go for COVID-19 questions and information. UMR is here to support you and respond to your health benefits needs and questions.