



Comparing the Pfizer and Moderna COVID-19 Vaccines

Did you know? Because the mRNA used in both vaccines is fragile, cold storage is required to ensure they are stable. Pfizer's vaccine requires ultra-cold shipment and storage at -94° F, compared to Moderna's at -4° F. This makes Moderna's far less challenging to use than Pfizer's, which requires special freezers. While both vaccines are shipped and stored frozen, they are thawed before injection.

Safe, effective COVID-19 vaccines are here

Across the globe, pharma companies are racing to roll out safe, effective vaccines to combat COVID-19 disease. According to the World Health Organization (WHO), over 50 vaccines are now in trials, with seven receiving regulatory approval in various countries.

Here in the U.S., the Food and Drug Administration (FDA) has granted emergency use authorization of two mRNA COVID-19 vaccines: Pfizer (in partnership with BioNTech) and Moderna.

Despite the quick authorization, the safety of these products was, and is, a top priority for everyone involved. The FDA is required to make decisions that are guided by science and data. The makers of these vaccines followed every necessary step to meet the FDA's emergency authorization process. Both vaccines have been through a series of reviews and were rigorously tested for safety, effectiveness and quality.

Advances in science enabled the rapid development of these vaccines, which wasn't possible just a few years ago. The federal government's unprecedented investments also encouraged companies to start producing the COVID-19 vaccine sooner than is typical.



Both are revolutionary mRNA vaccines that are highly effective—94 to 95%—against COVID-19. But there are a few differences.

Two different vaccines—one common goal

Although developed by different manufacturers, the two vaccines are very similar. Both are [mRNA vaccines](#) that “teach” the body to make the spike protein found on the virus. This protein triggers your immune system, which creates antibodies specific to COVID-19. These antibodies protect the body and help fight future infection.

The Pfizer/BioNTech vaccine showed 95% protection during a clinical trial of 44,000 participants. The Moderna vaccine showed 94% protection in a clinical trial of 30,000. In comparison, the effectiveness of the common flu vaccine varies each year between 40% and 60%.

As reported in both the Pfizer and Moderna trials, the level of effectiveness of each manufacturer’s vaccine was consistent across age, gender, race and ethnicity. Each trial included a range of white, Hispanic/Latinx, Black, Asian and multiracial participants.

Comparing the Vaccines	Pfizer-BioNTech mRNA Vaccine	Moderna mRNA Vaccine
Doses and timing	Two doses, three weeks apart	Two-dose vaccine, four weeks apart
Who can receive it	Recommended for people ages 12 years or older	Recommended for people ages 18 years or older
Storage	Requires ultra-cold storage (–94° F)	Requires standard cold storage (–4° F)
Available doses	3 billion doses to the world in 2021	500 million to 1 billion doses to the world in 2021
Effectiveness	Large-scale trial (44,000 participants) showed 95% protection from disease	Large-scale trial (30,000 participants) showed 94% protection from disease

Giving COVID the one-two punch

Both vaccines are given in a series of two injections. The first is a priming dose that prepares the immune system. The second is a booster shot that strengthens the body’s immune response.

Pfizer’s vaccine requires the two doses to be given 21 days apart, while Moderna’s doses are delivered 28 days apart.



Can children get vaccinated?

Pfizer's vaccine is currently recommended for individuals 12 years or older. And Moderna's for those 18 or older.

If the trials show the vaccines are safe for younger children, future tests could eventually consist of toddlers and infants.

By law, vaccine companies must test all their products on children, including the COVID-19 vaccine. But testing takes time, making it unlikely that children will be vaccinated before the next school year starts.

When can you get vaccinated?

Most states are prioritizing vaccine distribution in four or five different phases. If you're a healthy person, you'll most likely have to wait until one of the later phases to get vaccinated, which could take several months.

While only Pfizer and Moderna vaccines are available in the U.S. as of early January 2021, there are additional vaccines in phase three clinical trials. Some of these vaccines likely will be available soon. This will speed up the vaccination rate in the U.S. and around the globe.

Sources

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